

ECOLOGY AND ENVIRONMENT, INC.
REQUEST FOR FIT SUBCONTRACT APPROVAL

Laclede Coal
MOB 981715980
22.8

131-91

TO: EPA Project Officer/Contracting Officer
VIA: 1) Region VII FITOM Shawn P. Martin
(Signature)
2) ZPMO Subcontracts Manager Lewis A. Welzel
FROM: Regional Subcontract Manager (Signature)
SUBJECT: Request for Subcontract Approval
WORK DESCRIPTION: Complete a total of thirty (30) soil borings

DATE: January 31, 1991
SITE: Laclede Coal Gas Site
LOCATION: St. Louis, Missouri
TDD NO: F-07-9008-020
PAN: FMO0579SA

ATTACHMENTS (Please Check):

- | | |
|---|----------------------------|
| <input checked="" type="checkbox"/> 1. Memo of Negotiation/Selection | Approved and Issued: |
| <input checked="" type="checkbox"/> 2. Technical Directive Document/
RPO Memo | |
| <input checked="" type="checkbox"/> 3. List of Prospective Bidders | Lewis A. Welzel Date |
| <input checked="" type="checkbox"/> 4. Bid Package: | E & E Subcontracts Manager |
| <input checked="" type="checkbox"/> Invitation For Bid | Request For Proposal |
| <input checked="" type="checkbox"/> Request For Quotation | OTHER (Specify) |
| <input checked="" type="checkbox"/> 5. Bid Price Sheet and/or Proposals, E & E Cost Comparison Worksheets | |
| <input type="checkbox"/> 6. Sole-Source Justification | SBE |
| <input checked="" type="checkbox"/> 7. Proposed Contract/Purchase Order | SDBE |
| <input type="checkbox"/> 8. Optional Form 60/Other Price Breakout | MBE |
| | WOB |
| | Large |
| | LSA |
| <input type="checkbox"/> 9. Other | (Specify) |

- The attached subcontract request and supporting documentation are forwarded for your review and approval. The subcontract is a Time and Materials type with an estimated start date of February 25, 1991 and a completion date of March 7, 1991 with an [REDACTED]. The proposed contractor is John Mathes and Associates of Columbia, Illinois.
- Your approval or disapproval of this contractual action may be indicated below.

<input checked="" type="checkbox"/> Henry D. Van Cleave, ZPM-FIT	Date	Approved	Disapproved	Reason
<input checked="" type="checkbox"/> R. Frank, V.P. Finance (if T & M > \$10K) (if fixed price > \$25K)	Date	Approved	Disapproved	Reason
<input checked="" type="checkbox"/> EPA Project Officer (all > \$2K)	Date	Approved	Disapproved	Reason
<input checked="" type="checkbox"/> EPA Contracting Officer (if T & M > \$10K) (if fixed price > \$25K) (all consultants)	Date	Approved	Disapproved	Reason



0724

0400

10.0

ES

MEMORANDUM OF SELECTION/NEGOTIATION

TO: Zone Program Manager, H.D. Van Cleave

THRU: FITOM, E & E Region VII *[Signature]*

FROM: Subcontract Manager, E & E Region VII *[Signature]*

DATE: January 31, 1991

SUBJECT: Proposed Subcontract for the Advancement and Sampling a total of thirty (30) Soil Borings at the Laclede Coal Gas site located in St. Louis, Missouri.
TDD #F-07-9008-020 PAN #FM00579SA

This memo provides justification for the soil borings and sampling at the Laclede Coal Gas site located in St. Louis, Missouri.

A. BACKGROUND

E & E is in the process of conducting a site investigation in St. Louis, Missouri (Figure 1). As part of this investigation it is necessary to retrieve representative samples of subsurface soils. The advancement soil borings will facilitate the investigation objectives. The Region VII U.S. EPA has given this project a medium priority classification.

B. SCOPE OF WORK

A maximum of six-hundred (600) linear feet shall be advanced with solid stem augers. This consists of twenty (20) soil borings to be drilled, each to a maximum depth of thirty (30) feet below ground surface.

An additional 5 to 10 soil borings shall be drilled with hollow stem augers, for a maximum of 300 linear feet. No single boring to exceed 60 feet maximum depth. It is the subcontractor's responsibility to locate a source of clean water for all drilling procedures. E & E will not reimburse expenses incurred in the maintenance of an adequate water supply.

In general, all drilling and sampling operation shall conform to standards specified by the American Society for Testing and Materials.

A total of three-hundred (300) linear feet of continuous soil samples shall be collected by the subcontractor during the advancement of the 5 to 10 borings. These samples shall be collected at locations to be specified by the E & E field project manager. The subcontractor shall provide a sufficient number of continuous samplers (two or more) to allow drilling and sampling activities to proceed without interruption. As the continuous samples are retrieved from the borings,

they shall be delivered to E & E field personnel for sample extraction and examination. The subcontractor will provide a table on which the soil cores can be examined.

Upon completion of drilling and sampling activities at each boring location the drilling spoils shall be discharged back to the borehole. If the quantity of accumulated spoils is less than the quantity needed to backfill the borehole to the ground surface or the soil cuttings are containerized due to potential contamination, the remaining void shall be backfilled with a lean cement/natural bentonite grout. The consistency of the grout shall be approved by E & E project manager prior to placement.

C. BID SOLICITATION

Bid specifications were sent to five (5) prospective bidders on January 15, 1991. A list of these prospective bidders follows:

- 1) Geotechnology Service, Inc.
St. Louis, Missouri 63146
- 2) Nebraska Testing Corporation
Omaha, Nebraska 68106-0075
- 3) Layne-Western Co.
Fenton (St. Louis), Missouri 63026-1146
- 4) Exploration Technologies, Inc.
Madison, Wisconsin 53715
- 5) John Mathes and Associates, Inc.
Columbia, Illinois 62236

Bidders responded to this solicitation by January 25, 1991, the specified date of transmittal. John Mathes and Associates, Layne-Western, Geotechnology Services, and Exploration Technologies were the only four (4) bidders to return proposals. Nebraska Testing Corporation declined to forward a bid for unknown reasons.

D. COST/PRICE/ANALYSIS/JUSTIFICATION

The FIT VII technical review panel examined the proposals submitted, and determined that John Mathes and Associates provided the lowest overall estimated cost for the Statement of Work (bid package) provided. The unit prices and total cost of the bid were determined fair and reasonable based on the panel's technical knowledge of the work to be performed, and the unit prices quoted on similar drilling subcontracts recently let by Region VII FIT. Selection was also made with consideration of John Mathes and Associate's technical capability and their projected period of work duration. E & E/FIT has worked with John Mathes and Associates crews on previous projects and found them highly competent technically, and efficient in their implementation of the Scope of Work. The recommended not-to-exceed estimated cost is based on the assumption that 30 percent of the work will be conducted in level-C and 70 percent will be accomplished in level-D personal protection. This distribution of work environments was stipulated in

the bidders package. After work begins and further site evaluation occurs it may be deemed necessary to alter this work distribution. In this event the E & E project manager will insure that appropriate rates are charged, commensurate with the level of personal protection used.

E. RECOMMENDATION

Region VII FIT recommends the approval of a Time and Materials type subcontract with a not-to-exceed (NTE) dollar obligation of [REDACTED] to John Mathes and Associates, Inc., located in Columbia, Illinois, for work to be performed at the Laclede Coal Gas site in St. Louis, Missouri. This NTE reflects 30 percent level-C and 70 percent level-D work.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

MEMORANDUM

RECEIVED
FEB 04 1991
PREP SECTION

TO: FIT Zone II Contract Officer

FROM: FIT RPO Region VII, Pete Culver *Pete Culver*

DATE: January 30, 1991

SUBJECT: Soil Boring Subcontract for the Laclede Coal Gas site, St. Louis, Missouri.
TDD #F-07-9008-020 PAN #FM00579SA

The subcontract specifications for the drilling phase of this work plan have been reviewed by our technical staff. The work involved in this phase has been deemed essential for the satisfactory completion of the Technical Directive Document (TDD). The type of drilling, and the method of sample recovery has been evaluated and approved. The estimated costs [REDACTED] are considered appropriate to obtain the required data.

1A. Cost Center: FT 1307		FIT ZONE II CONTRACT Contract Number 68-01-7347 TECHNICAL DIRECTIVE DOCUMENT (TDD)			2. TDD Number: F -07-9008-020	
1B. Account Number: FMO0579SA					2A. Amendment: * <input type="checkbox"/> Administrative <input checked="" type="checkbox"/> Technical	
3A. Priority: <input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low		3B. Key EPA Contact: Name: <u>Greg Reesor</u> Phone: <u>551-7695</u>				
4A. Estimate of Technical Hours: * <u> </u>		4B. Subcontract: <u>T & M</u>	4C. Estimate of Subcontract Cost: * <u> </u>	5A. SSID Number: <u>Unassigned</u>		5B. CERID Number: <u>MOD981715980</u>
5C. EPA Site Name: <u>LaClede Coal Gas site</u>			5D. City/County/State: <u>St. Louis/St. Louis/Missouri</u>			
6. Desired Report Format: <input checked="" type="checkbox"/> Formal Report <input type="checkbox"/> Standard Report <input type="checkbox"/> Other (Specify): * <input type="checkbox"/> Letter Report <input type="checkbox"/> Formal Briefing			7A. Activity Start Date: <u>8/29/90</u>		7B. Estimated Completion Date: <u>10/31/91</u> *	
8A. Type of Activity: <input type="checkbox"/> PA <input type="checkbox"/> RCRA-PA <input type="checkbox"/> HRS Support <input type="checkbox"/> Enforcement Support <input type="checkbox"/> Training <input checked="" type="checkbox"/> SI <input type="checkbox"/> RCRA-SI <input type="checkbox"/> QA Support <input type="checkbox"/> Program Management <input type="checkbox"/> General Technical Assistance <input type="checkbox"/> ESI <input type="checkbox"/> Special Studies <input type="checkbox"/> Equipment Maintenance					8B. FIT/SCAP Goal: Will Deliverable Meet a Unit of the Goal? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
9. General Task Description: <u>Perform a screening site investigation of the LaClede Coal Gas site located in St. Louis, Missouri.</u>						
10. Specific Elements: <u>1) Review background information.</u> <u>2) Prepare draft HRS score.</u> <u>3) Conduct site reconnaissance.</u> <u>4) Prepare work plan.</u> <u>5) Prepare Bid Specs and Subcontract packages.</u> * <u>6) Implement work plan and produce trip and final reports.</u> <input type="checkbox"/> Additional Scope Attached					11. Interim Deadlines: 	
12. Comments: <u>* TDD amended to implement field work (648.50 hours added) (third amendment).</u>						
13. Authorizing: <u><i>Pete Culver</i></u> (Signature)					<input checked="" type="checkbox"/> RPO <input type="checkbox"/> DPO <input type="checkbox"/> PO	
15. Received by: <u><i>Shawn P. Martin</i></u> (Contractor FITOM Signature)					<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Accepted with Exceptions (Attached) <input type="checkbox"/> Rejected	
					14. Date: <u>2/4/91</u>	
					16. Date: <u>2/4/91</u>	

List of Prospective Bidders

	<u>Sent Request</u>	<u>Received Written Bid</u>
1) Jim Howe Geotechnology Service, Inc. 2258 Weldon Parkway St. Louis, Missouri 63146 (314) 997-7440	1/15/91	1/25/91
2) David Wendte Nebraska Testing Corporation 4453 South 67th Street Omaha, Nebraska 68106-0075 (402) 331-4453	1/15/91	No Response
3) Mary Goodwin Layne-Western Co. 705 South Duff Ave. Ames, Iowa 50010 (515) 232-3563	1/15/91	1/25/91
4) Tom Ruda Exploration Technologies, Inc. 1402 Emil Street Madison, Wisconsin 53715 (608) 258-9550	1/15/91	1/25/91
5) Tom Marlo John Mathes and Associates, Inc. Exploration Services 210 West Sand Bank Road Columbia, Illinois 62236 (618) 281-7173	1/15/91	1/25/91

MEMORANDUM

DATE: January 15, 1991

TO:

SUBJECT: Information for Bidders Package

ATTACHMENTS: Information for Bidders Package
Sample Cost Reimbursable Contract
Statement of Medical Fitness

Dear Mr. Wendte:

The attached Information for Bidders Package constitutes a request from the U.S. Environmental Protection Agency (USEPA) and Ecology and Environment, Inc. (E & E) for drilling and monitoring well installation which your company may be qualified to perform in the allotted time frame. This work is to be performed at a site in St. Louis, Missouri.

The information package contains background information, purpose and scope of this project, as well as the cost reimbursable contract to be used.

If E & E and your company are able to concur on the appropriate contractual agreement, the work is to be initiated during the week of February 25, 1991.

A written proposal should be submitted by January 25, 1991, and should include the following:

- 1) A statement that all work will be performed in accordance with the specifications set forth in the Information for Bidders Package and which stand in a Court of Law.
- 2) "Statement of Qualifications" of those individuals who will be assigned to the project.
- 3) Three (3) references which we may contact where similar work has been performed (preferably hazardous or industrial waste sites).

- 4) A time schedule which will be adhered to, provided no unusual delays are encountered.
- 5) List of major equipment to be utilized in the completion of the project.
- 6) Proof of insurance.
- 7) A signed copy of the statement of Medical Fitness (Appendix A in the bid package).
- 8) A signed copy of the statement of Health and Safety Training (Appendix B in the bid package).

If you have any further questions with regard to the attached information, please call Keith Brown at the Kansas City Regional Office (913)432-9961.

Sincerely,

Sharon P. Martin
FIT Office Manager

Attachments

**BID PACKAGE SPECIFICATIONS
SAMPLING FOR THE
LACLEDE COAL GAS SITE
St. Louis, Missouri
TDD# F-07-9008-020 PAN# FM00579SA
Keith Brown, PROJECT MANAGER**

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BID SPECIFICATION
DRILLING AND SAMPLING
AT
Laclede Coal Gas Site
St. Louis, Missouri
TDD# F-07-9008-020 PAN# FM00579SA

SECTION 1: GENERAL BACKGROUND

Ecology and Environment, Inc. (E & E) with a business office at 1700 N. Monroe Street, Suite 1105, Arlington, Virginia 22209 has entered into a contract (Contract No 68-01-7347) with the United State Environmental Protection Agency (EPA), dated November 1, 1986, to furnish technical, engineering and managerial services in support of Field Investigation activities at uncontrolled hazardous substance facilities.

E & E is in the process of conducting a screening site investigation in St. Louis, Missouri. As part of this investigation it is necessary to retrieve representative samples of subsurface soils. The advancement soil borings will facilitate the investigation objectives.

A search of historical documents provided information identifying this site as the location of the former Laclede Coal Gasification Plant. This facility may constitute the largest coal gas facility in Region VII.

The Laclede Coal Gas site is located in St. Louis, Missouri, approximately 1 mile north of the St. Louis Arch, along the Mississippi River (Figure 1-1). The legal description of the power plant is city block 234-Tract #25, St. Louis Plan. The site is located in an industrial area adjacent to the river. Several large warehouses, a petroleum tank farm, and a large grain storage facility are all located within 1/4 mile of the facility. A tank farm has been constructed over a portion of the site. Currently, the northeast portion of the site is occupied by the former Mound St. Power Plant building, and the Apex Oil Company St. Louis terminal occupies the western half of the site (Figure 1-2).

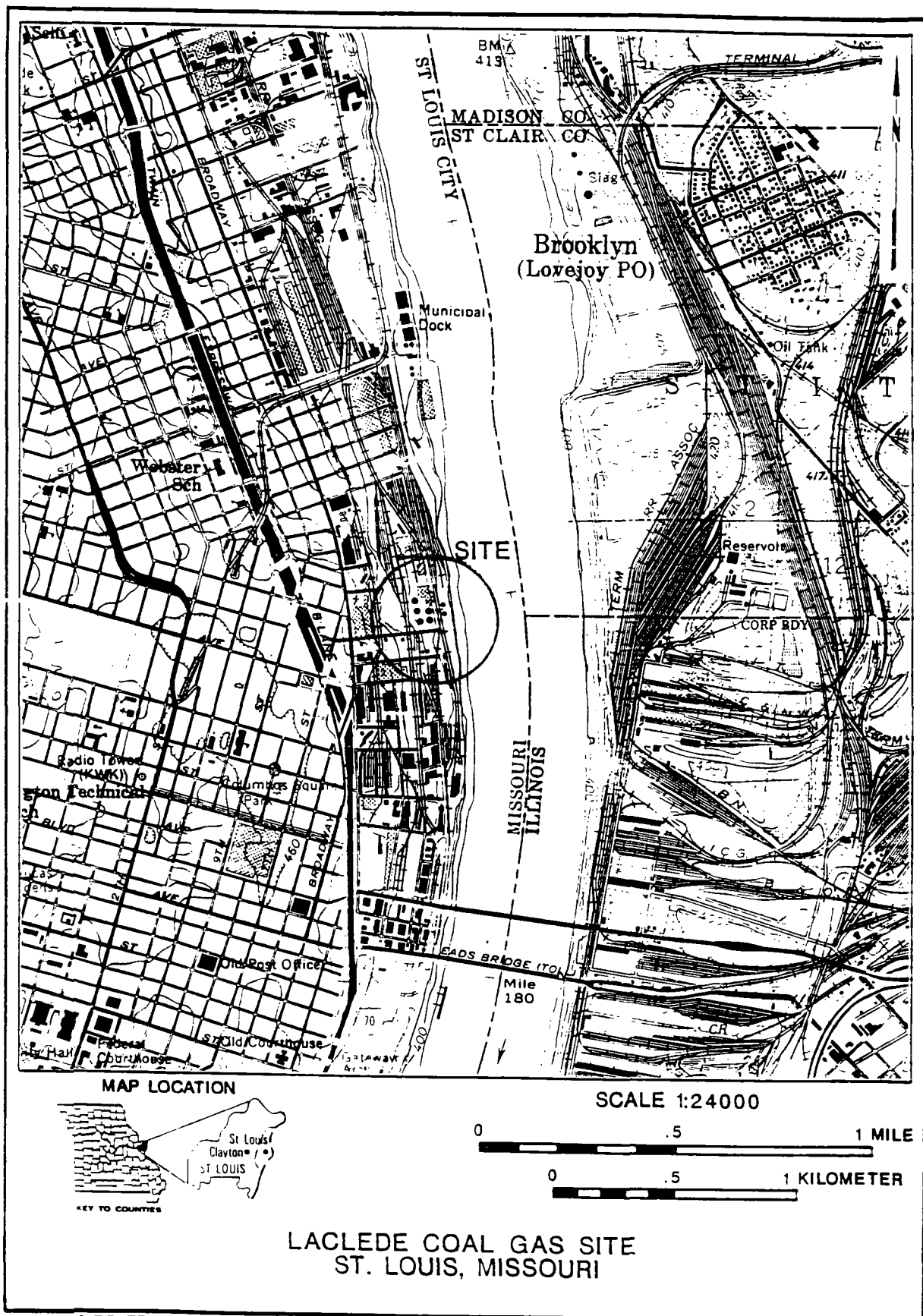
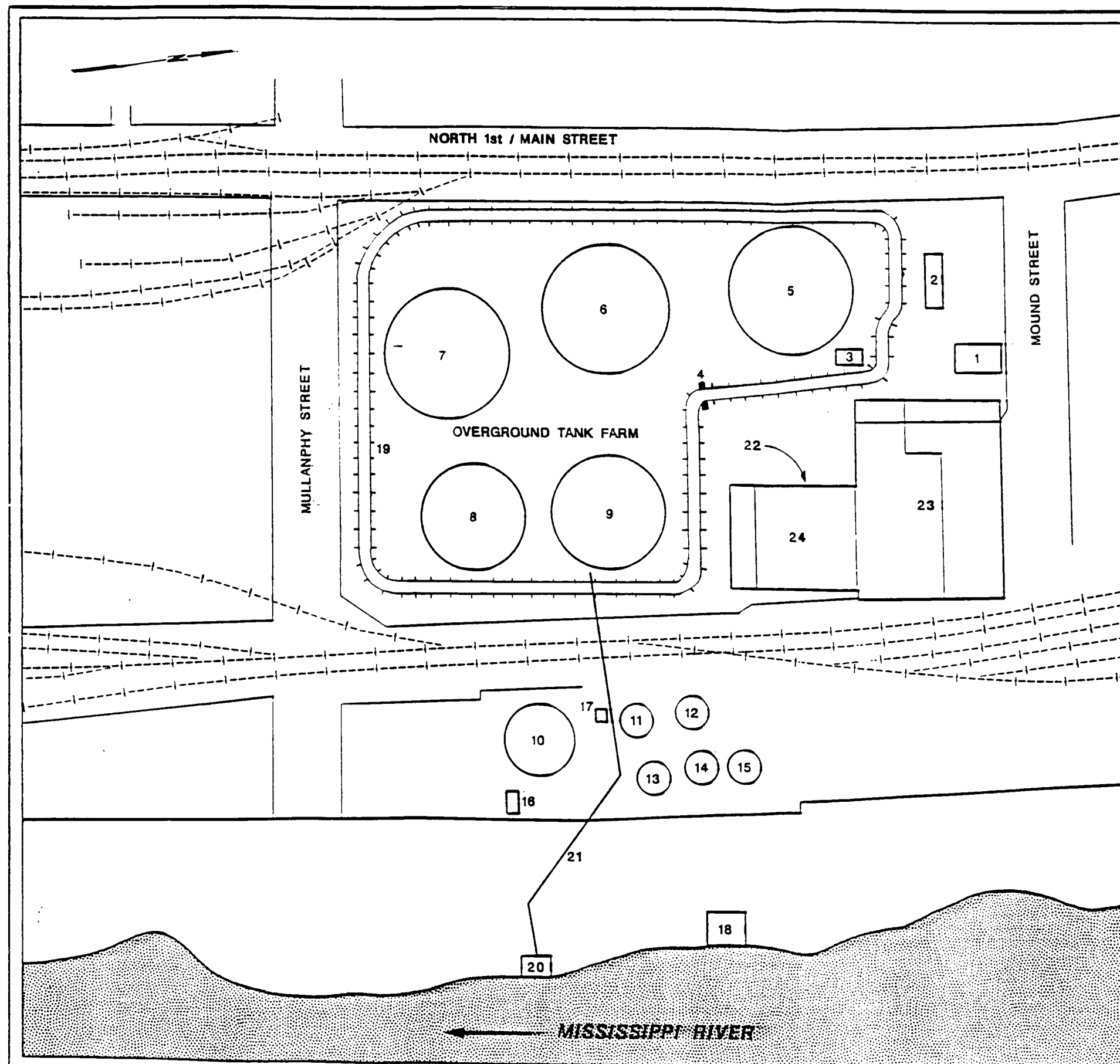


FIGURE 1-1 : SITE LOCATION



EXPLANATION

APEX OIL COMPANY ST. LOUIS TERMINAL STRUCTURES

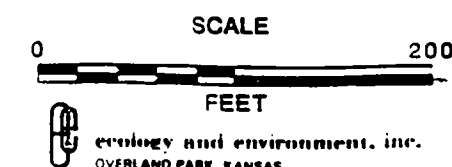
1. OFFICE
2. TANKER TRUCK LOADING PLATFORM
3. EQUIPMENT SHED
4. ENCLOSURE DRAIN PIPE
5. FUEL OIL TANK (80,000 Barrels)
6. FUEL OIL TANK (80,000 Barrels)
7. FUEL OIL TANK (80,000 Barrels)
8. FUEL OIL TANK (50,000 Barrels)
9. FUEL OIL TANK (55,000 Barrels)
10. OIL TANK
11. CRUDE OIL TANK
12. CRUDE OIL TANK
13. CRUDE OIL TANK
14. CRUDE OIL TANK
15. CRUDE OIL TANK
16. PUMP HOUSE
17. PUMP HOUSE
18. PUMP HOUSE (Abandoned)
19. CONTAINMENT BERM
(For Fuel Oil Tanks, Capped With A Chain-link Fence)
20. PUMP HOUSE
21. RIVER TANKER OFF-LOADING PIPES

FORMER UNION ELECTRIC MOUND ST. FACILITY (Currently Owned By Mound St. Corp.)

22. FORMER UNION ELECTRIC BUILDING
23. GENERATOR ROOM (Basement Plan)
24. BOILER ROOM (Basement Plan)

LACLEDE COAL GAS SITE ST. LOUIS, MISSOURI (PRESENT DAY CONFIGURATION)

FIGURE 1-2



The site is not secured and access to the grounds buildings is relatively unrestricted. There are locks on most doors and a fence surrounds the petroleum storage tanks, no other security exists.

The two waste products of primary concern are tar sludges (coal tars) and spent oxides. Ammonia wastes are also by-products of this production process, but are not considered hazardous. Coal tar wastes are primarily polynuclear aromatic hydrocarbons (PAHs) and phenolics produced during coal or coke combustion and during the oil injection process. Spent iron oxide wastes are produced during the gas purification process where impurities are removed from the manufactured gas. Iron oxide wastes contain sulfur compounds, cyanide compounds, and small quantities of coal tar. Light aromatics such as benzene, toluene, and xylene (volatile organic compounds) also are occasional constituents of coal tar wastes.

This drilling phase of the project will require the advancement of twenty (20) borings using solid stem augers to a maximum depth of thirty (30) feet and 5 to 10 borings using hollow stem augers and continuous samples to a maximum depth of 30 feet. The borings will be taken at 20 selected locations throughout the site. The borings will be used to classify the site soils and locate any significant tar waste pits.

All 20 locations will be drilled initially using 4-inch diameter solid stem augers in order to screen the location for contaminants. A screening sample will be collected from the side of the auger as it comes out of the hole every 5 feet (each flight). A mobile laboratory will analyze the screening samples on site for selected semi-volatile and volatile organic compounds.

After the screening sample results are complete, locations which contained significant contaminants will be drilled again using continuous sampling with 4-inch diameter hollow stem augers. It is estimated that 5 to 10 continuous sampled boreholes will be required. Split spoon sampling will be used as a backup to continuous sampling, if needed.

SECTION 2: INFORMATION TO BIDDERS

Questions regarding specific aspects of the work to be performed should be directed to the attention of the E & E project manager, Keith Brown (913/432-9961), and questions concerning contract procedures should be addressed to the E & E ZPMO subcontracts Manager, Mr. Lewis A. Welzel (703/522-6065) or the E & E Regional Subcontracts Manager, Mr. Wes McCall (913/432-9961).

Soil borings will be advanced with solid stem augers, at twenty (20) locations to a depth of thirty (30) feet. The borings will be taken at selected points throughout the site. Five to ten additional borings shall be continuously sampled to a depth of thirty (30) feet.

Access to private property will be arranged by E & E and the EPA prior to commencement of the project. All subcontractor personnel must coordinate entry onto the site with E & E.

Three subcontractor personnel are required to perform this job task. Before the commencement of the drilling work, E & E will conduct a site orientation session for subcontractor personnel. The session will cover site safety, the use of respiratory protective equipment, and decontamination procedures. The training will be held at the site or at a mutually agreeable location, and it will take approximately one half hour. It is the subcontractor's responsibility to have enough personnel present at the training session to adequately cover any unanticipated crew member changes. Coordination and scheduling of such training will be with the above-named E & E technical project manager.

This project has a medium priority rating as assigned by the EPA. The present schedule calls for mobilization of equipment on-site by February 25, 1991.

SECTION 3: SOILS, STRATIGRAPHY, AND HYDROGEOLOGY

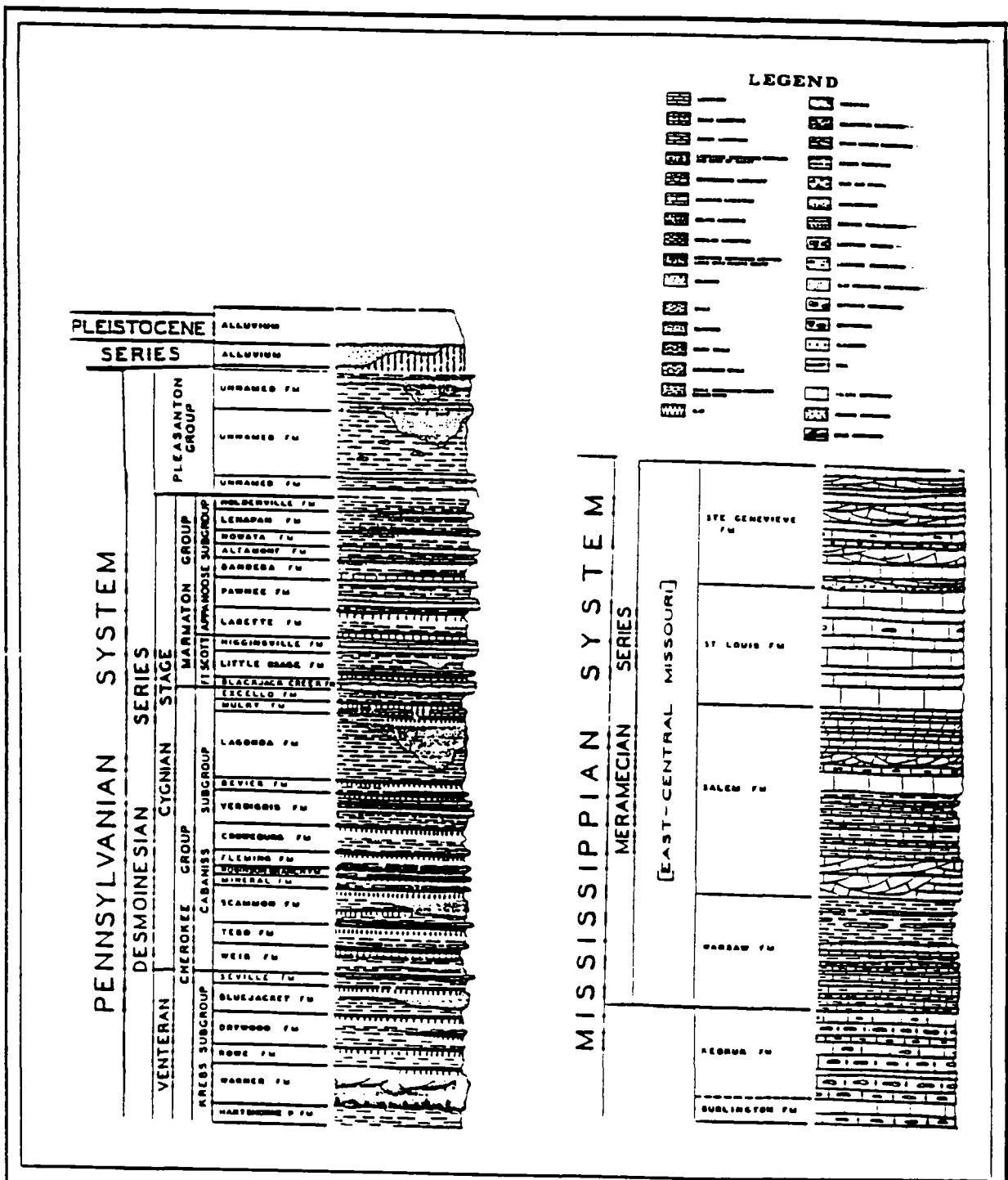
The soils in the area belong to the Harvester, Fishpot and Urban Land associations. These soils are classified as fine loams to fine silty clay loams. On site, the soils belong to the Urban land, bottom land unit. This unit consists of areas in which more than 85 percent of the surface is covered by asphalt, concrete, buildings, or other impervious material.

The area was originally bottom land which was built-up to protect the site from flooding. The amount of fill in the areas can range from 0 to over 20 feet, and could consist of sands and construction debris. Variability of the soils in the area makes identification impractical without a detailed on-site investigation. Figure 3-1 depicts the thickness of the alluvium along the Missouri, Mississippi, and Meramac rivers in St. Louis County.

The bedrock stratigraphy beneath the site belongs to the upper Mississippian and lower Pennsylvanian systems, which are roughly 286 to 360 million years old. Figure 3-2 shows that these systems are subdivided, in descending order, into the Pleasanton, Marmaton and Cherokee groups of the Pennsylvanian System, and the Mermacian series of the Mississippian System.

The Mermacian Series contains the following formations: Warsaw, Salem, St. Louis, and Ste. Genevieve. The predominant rock type is a finely crystalline, sometimes fossiliferous limestone with some dolomite. This series displays a typical cyclothemic succession (transgressive/regressive limestones with interbedded shales) though not necessarily a complete one. Chert is a very common accessory in the upper portions of the series.

The overlying Pennsylvanian deposits are predominantly clastic in origin. However, numerous limestone, coal and shale beds occur. The



LACLEDE COAL GAS SITE

ST. LOUIS, MISSOURI

WASTE SITE TRACKING NO.: MO0579
PREPARED BY: JOHN C. PARKS

ECOLOGY AND ENVIRONMENT FIT DEC. 1987
SOURCE: STRATIGRAPHIC SUCCESSION IN MISSOURI

FIGURE 3-2 : GENERALIZED STRATIGRAPHIC SECTION ST. LOUIS COUNTY, MISSOURI

lower groups (Cherokee and Marmation) have formal subdivisions while the Pleasanton consists of undifferentiated shales, siltstones, sandstone, coal, and, to a lesser degree, limestone.

The specific stratigraphy beneath the site can be inferred from regional data. However, for more accurate information a more in depth, site specific geologic study would be useful.

The bedrock aquifers for the region are divided into five discrete units appropriately labeled one through five. Figure 3-3 shows the section view of the aquifers and Figure 3-4 shows the distribution. Group one, the Post-Maquoketa group, includes the strata above the Kimmswick Formation to the surface. Below this aquifer group lies the Maquoketa shale. Based on current information, the shale acts as an aquitard. Group two is the Ordovician age Kimmswick-Joachim aquifer. Near the top of this unit is the Decorah Formation, which probable acts as a confining bed composed of shales and interbedded limestones. The remaining lower three aquifers are separated primarily on the basis of unconformities. It is likely these aquifer groups; in descending order, the St. Peter-Everton, Powell-Gasconade and the Eminence-Lamotte are hydraulically connected.

Generally the bedrock aquifers of the region yield very small quantities of water; roughly 0 to 50 gallons per minute (gpm). The alluvial aquifers (Post-Maquoketa) completed along the Meramac, Mississippi, and Missouri rivers can provide much larger quantities. For example, the Weldon Springs Ordinance Plant production well yields almost 2,000 gpm. Other larger yield industrial wells may be located near the rivers so that water would be drawn from these surface sources.

aquifers most favorable as water sources are shaded

System	Series	Group	Formation	Aquifer group	Thickness (feet)	Dominant lithology	Water-bearing character
Quaternary	Holocene		Alluvium ^{1/}		0-150	Sand, gravel, silt, and clay.	Some wells yield more than 2,000 gpm.
	Pleistocene		Loess Glacial till		0-110 0-55	Silt Pebbly clay and silt.	Essentially not water yielding
Pennsylvanian	Missourian	Pleasanton	Undifferentiated		0-75	Shales, siltstones.	Generally yields very small quantities of water to wells. Yields range from 0-10 gpm.
		Marion	Undifferentiated		0-90	"dirty" sandstones,	
	Desmoinesian	Des Moines	Undifferentiated		0-200	coal beds and thin limestone beds.	
	Albion		Undifferentiated				
Mississippian	Meramecian		St. Genevieve Formation		0-160	Argillaceous to arenaceous limestone.	Yields small to moderate quantities of water to wells. Yields range from 5 to 50 gpm. Higher yields are reported for this interval locally.
			St. Louis Limestone		0-180		
			Salem Formation		0-180		
			Warren Formation		0-110		
	Osagean		Burlington-Knox Limestone		0-240	Cherty limestone	
			Pera Glen Formation		0-105	Red limestone and shale	
Devonian	Upper	Sulphur Springs	Bushy Run Sandstone		0-60	Limestone and sandstone.	
			Glen Park Limestone		0-50	Flssile, carbonaceous shale.	
Silurian			Crassy Creek Shale		0-200	Cherty limestone.	
			Undifferentiated				
Ordovician	Cincinnatian		Maquoketa Shale		0-163	Silty, calcareous or dolomitic shale.	Probably constitutes a confining influence on water movement.
			Pope Limestone		0-5	Argillaceous limestone.	
			Albion Limestone		0-145	Massive limestone	
			Decorah Formation		0-50	Shale with interbedded limestone.	
	Chambian		Platteau Formation	2	0-240	Finely crystalline limestone.	Yields small to moderate quantities of water to wells. Yields range from 3 to 50 gpm.
			Rock Ledge Formation		0-93	Dolomite and limestone, Decorah Formation rock shale.	
			Joachim Dolomite		0-135	Primarily argillaceous dolomite.	
			St. Peter Sandstone		0-160		
			Everton Formation	3	0-130	Silty sandstone, cherty limestone grading upward into quartzose sandstone.	
	Canadian		Fossil Dolomite		0-150		Yields small to large quantities of water to wells. Yields range from 10 to 100 gpm. Upper part of aquifer group yields only small amounts of water to wells.
			Cotter Dolomite		0-320		
			Jefferson City Dolomite		0-225	Sandy and cherty dolomites and sandstone.	
			Bambidown Formation	4	0-177		
Cambrian	Upper	Elvina	Cassidown Dolomite		0-180		
			Elvina Dolomite				
			Devon-Dorset				
			Devon Formation		0-150		
			Sonnetette Formation		245-385		
Precambrian			Lamotte Sandstone		235+		

^{1/} Basal part may be of Pleistocene age.

NOTE: Stratigraphic nomenclature may not necessarily be that of the U.S. Geological Survey.

LACLEDE COAL GAS SITE

ST. LOUIS, MISSOURI

WASTE SITE TRACKING NO.: MO0579
PREPARED BY: JOHN C. PARKS

ECOLOGY AND ENVIRONMENT [17 DEC. 1987
SOURCE: WATER RESOURCES ST. LOUIS
AREA MISSOURI

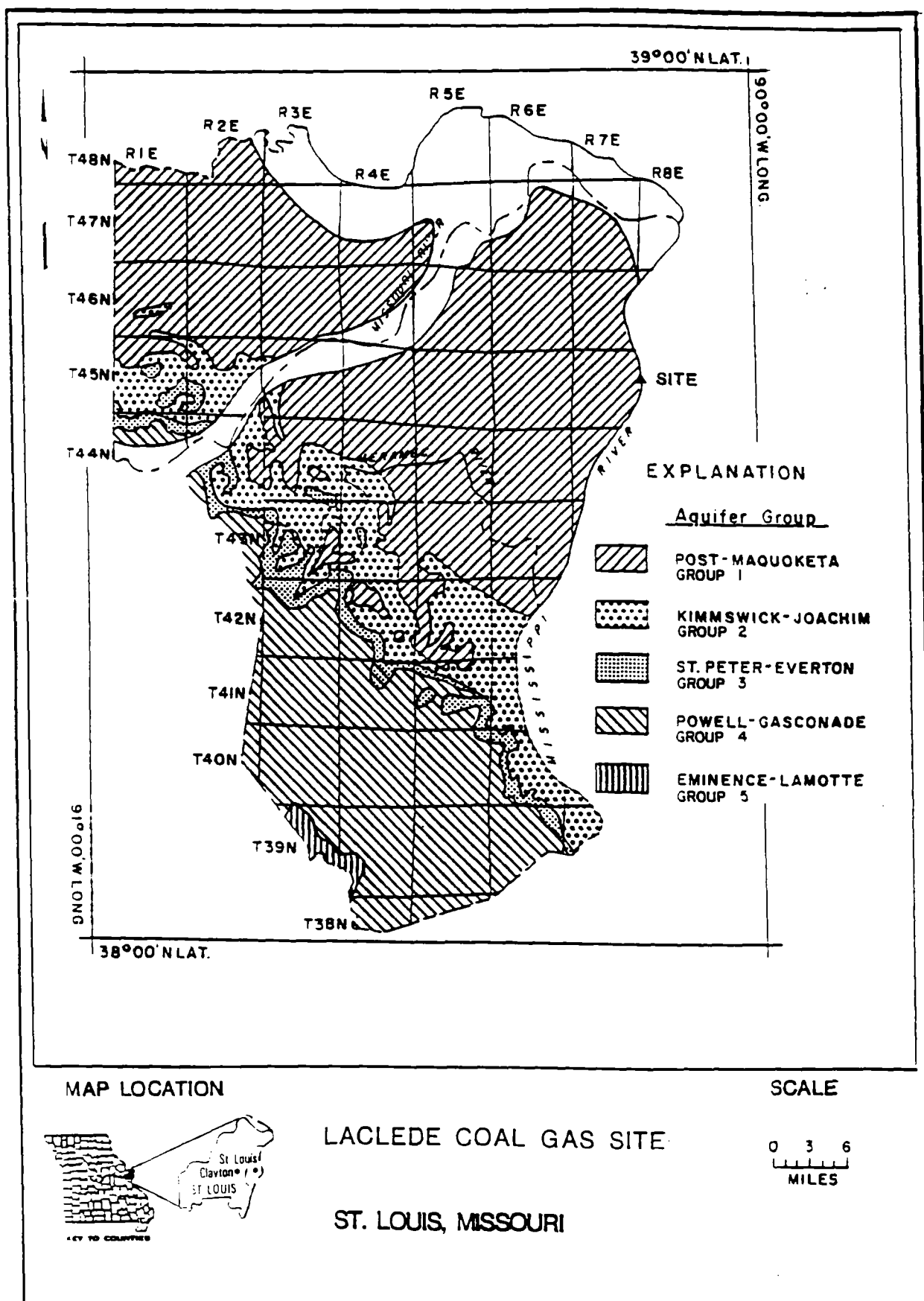


FIGURE 3-4 : MAJOR AQUIFER DISTRIBUTION ST. LOUIS COUNTY MISSOURI

SECTION 4: SCOPE OF WORK

The subcontractor is to furnish all materials, equipment, and labor necessary for access to boring locations, for the drilling of (20) soil borings with solid stem augers and 5 to ¹⁰ borings with hollow stem augers. In addition, the subcontractor is responsible for the collection of three-hundred (300) linear feet of continuous soil samples and for the decontamination of drilling/sampling equipment and for the return of soil cutting back into their bore holes.

4.1 Soil Boring Procedures

A total of six-hundred (600) linear feet shall be advanced with solid stem augers. This consists of twenty (20) soil borings to be drilled, each to a maximum depth of thirty (30) feet below ground surface.

An additional 5 to 10 soil borings shall be drilled with hollow stem augers, for a total of 300 linear feet. No single boring to exceed 60 feet maximum depth. It is the subcontractor's responsibility to locate a source of clean water for all drilling procedures. E & E will not reimburse ex-penses incurred in the maintenance of an adequate water supply.

In general, all drilling and sampling operation shall conform to standards specified by the American Society for Testing and Materials.

4.2 Continuous Soil Sampling

A total of three-hundred (300) linear feet of continuous soil samples shall be collected by the subcontractor during the advancement of the 5 to 10 borings. These samples shall be collected at locations to be specified by the E & E field project manager. The subcontractor shall provide a sufficient number of continuous samplers (two or more) to allow drilling and sampling activities to proceed without interruption. As the continuous samples are retrieved from the borings, they shall be delivered to E & E field personnel for sample extraction and examination. The subcontractor will provide a table on which the soil cores can be examined.

4.3 Backfilling

Upon completion of drilling and sampling activities at each boring location the drilling spoils shall be discharged back to the borehole. If the quantity of accumulated spoils is less than the quantity needed to backfill the borehole to the ground surface or the soil cuttings are containerized due to potential contamination, the remaining void shall be backfilled with a lean cement/natural bentonite grout. The consistency of the grout shall be approved by E & E project manager prior to placement.

4.4 Reports

Upon completion of the work, boring logs containing the following information shall be submitted to the E & E office identified in Section 7:

- a. Location
- b. Start and completion dates
- c. Boring number
- d. Soil classifications and depths
- e. Blow counts (if split spoons are used)
- f. Driller's remarks
- g. Driller's names

4.5 Decontamination

Prior to the mobilization of the drill rig on-site and following project completion, the rig and all associated equipment (including sampling devices) shall be thoroughly cleaned to remove all oil, grease, mud, tar, etc. This cleaning process shall consist of a high-pressure hot water cleaning. E & E personnel will inspect all equipment to insure sufficient cleaning. The subcontractor will provide all equipment necessary for this cleaning process.

It is anticipated that grossly contaminated soils (tar sludge) will be encountered. From past experiences with tar wastes, E & E has found it necessary to use mineral spirits or stoddard solvents for their removal. The subcontractor must provide all equipment and supplies necessary for this cleaning process. This is not an additional payment item.

Before drilling each boring, the augers, cutting bits and drilling rods shall be cleaned with pressurized hot water. Petroleum-based lubricants shall not be used to prevent binding.

Following the retrieval of each sample, sampling equipment shall be decontaminated by means of stoddard solvent cleaning, followed by an alconox and water wash and a final clean water rinse. Final rinse water will be approved by E & E project manager on site.

The subcontractor will be responsible for providing a means for collecting contaminated solvents, wash water, and related materials. This will require the construction of a decontamination pad. The decontamination pad will be a minimum of 12- by 12-feet in area. The base of the pad will be constructed of several inches of medium sand. This sand will be covered with plastic sheeting (4 to 7 mil thickness). A 35 mil (medium thickness) liner will be placed over the plastic sheeting. The four sides of this pad will have increased elevations through the placement of 8- by 8-inch (medium) boards under the plastic sheeting. Three sides of the decon pad will be fitted with 6-feet (medium) high walls. The walls will be constructed of plastic sheeting over a wooden frame. The bed of the decon pad will be sloped into one corner bounded by walls on each side. A sump will be placed in this corner to collect decon water. The sump may be constructed by placing a 55-gallon steel drum below grade in this corner. The water collected in the sump will be pumped into a 800-gallon (minimum size) holding tank. The holding tank must be mounted on a trailer and be capable of being moved to an off-site disposal area. If the decon water is deemed uncontaminated through lab analysis it will be transported to an off-site disposal site. If the lab analysis shows the water to be contaminated it will be drummed on-site and transported under a separate

subcontract. The determination of the significance of detected contamination will be based on EPA action levels or local Waste Water Treatment Plant (WWTP) acceptance levels. Travel time to deliver uncontaminated decon water will be covered under project mobilization and demobilization.

SECTION 5: DISPOSAL OF CONTAMINATED SOIL AND WASH WATER

Any drilling spoils or fluids which remain after each soil boring, and which cannot be discharged back to the borehole will be considered hazardous material until determined by E & E to be otherwise. Wash water and solutions remaining after decontamination of drilling equipment will also be considered a hazardous material until determined by E & E to be otherwise. The subcontractor will be required to containerize waste as described in 49 CFR Part 173. 55-gallon drums meeting the RCRA Part 173 specifications will be used. The subcontractor will then move the waste to a designated area on-site. E & E will determine which materials must be placed in 55-gallon drums. The subcontractor is required to provide the 55-gallon drums and liners as necessary to containerize any hazardous material. The subcontractor does not have to assume the role of hazardous waste generator in order to containerize the wastes and move them to the designated areas.

SECTION 6: SITE SAFETY

Because of the hazardous nature of the materials which have been or are stored or disposed of on-site, all personnel employed or retained for services by the subcontractor may be required to wear personal protective clothing and respiratory protective equipment while engaged in site-related activities. Appendix C contains U.S. EPA and E & E level of protection guidelines pertaining to personal protective clothing and respiratory equipment. E & E guidelines may at times call for minor modifications within each level of protection. Upon mobilization, the subcontractor shall be prepared to perform work at protection levels up-to and including level C. The required level of protection during operations will be dictated by waste characteristics, site characteristics, and meteorological conditions. In addition, the potential for the need to upgrade protection levels exists at any site where hazardous waste may be found. In the event of a need to further upgrade the level of protection to Level B, the subcontractor will be requested to resume work with a minimal delay following notification of the level of protection upgrade.

Determination of the need for respiratory protection will be made by E & E personnel on a location-to-location basis. It is anticipated that E & E guidelines will require the use of an air-purifying mask with cartridges during operations at some of the twenty (20) drilling locations. On-site monitoring may indicate a need for respiratory protection and thus it may be necessary to upgrade protection to level-C. It will be necessary for the subcontractor to be prepared for this contingency.

The subcontractor is required to provide his employees with respiratory protective equipment which will be used when drilling in areas where potentially high levels of contaminants may exist either above or below ground. The equipment may be required for any personnel within 10 feet of the drilling locations or within other areas designated by E & E during drilling operations.

Respiratory protective equipment cannot be used by individuals with long sideburns or beards or by individuals who wear standard eyeglasses or contact lenses. Special eyeglasses that can be worn with the respiratory equipment are available and can be purchased by the subcontractor at his expense. The use of contact lenses at this site is prohibited.

Other protective equipment which will be required for this task includes chemically resistant coveralls, rubber overshoes, steel-toed safety boots, hard-hats, rubber gloves, and safety goggles, all of which will be furnished by the subcontractor.

Questions regarding levels of protection and related equipment should be addressed to the E & E project manager prior to preparation of the bid proposal. Further, the prospective bidder is requested to carefully review Item 16. "Submission to Physical Examinations and Safety Procedures", Parts A through E, in the sample cost reimbursable contract included as an attachment. Additional safety-related requirements are defined therein.

[Note: Prospective bidders are cautioned that the requirement to wear protective equipment while conducting drilling operations may result in some discomfort and added physical stress to the subcontractor employee. Accordingly, prospective bidders should assure themselves that their employee's physical condition will allow them to successfully perform their duties without physical harm or adverse health effects when wearing the protective equipment per OSHA regulations contained in 29 CFR 1910.134 (b) 10.

Further, E & E will require documentation, in advance of field work, stating that the assigned subcontractor field personnel have been approved, from a health standpoint, for the use of respiratory protective equipment and that they comply with all OSHA regulations regarding work on hazardous waste sites. As confirmation of this, the subcontractor is required to complete the enclosed statement of Medical Fitness (Appendix A) and the statement of Health and Safety Training (Appendix B). The subcontractor must present the signed forms to E & E prior to commencement of the project].

SECTION 7: CONTRACT PARTICULARS

The subcontractor shall, on his own time and at his own expense, procure all permits, licenses, and certificates that may be required of him by law for the execution of the work hereunder. The subcontractor will comply with all federal, state and local laws, ordinances, rules, and regulations relating to the performance of the work hereunder.

The subcontractor is responsible for contacting utility companies and verifying in the field all existing underground cables, gas mains or other utilities. The location of drilling will be altered, if necessary, to avoid any damage to existing utilities. During the progress of the work, the subcontractor shall cooperate with the owners of utilities and permit their representatives access (subject to E & E approval) to the work area to determine if their utilities are being endangered in any way.

At the completion of field operations, it will be the responsibility of the subcontractor to restore the site as nearly as possible, to its original condition.

Should boulders or other obstructions be encountered, the subcontractor will attempt to redrill, after approval from E & E personnel, at distances not greater than 10 feet away from the first boring in an attempt to penetrate the soil to a reasonable depth. Where a reasonable depth is not obtained due to boulders or other obstructions, the subcontractor will be paid for the depth reached for all drilling attempts. If it is necessary to move a drilling location to a new site, the new location will be designated by a new boring number, and the boring location will be marked in the field by E & E personnel.

Upon completion of the work, complete drilling logs of all borings, including all information specified in Section 4.7, will be delivered at the expense of the subcontractor to the office of Ecology and Environment, Inc., located at Cloverleaf Building #3, Suite 404, 6405 Metcalf Avenue, Overland Park, Kansas 66202, Attention: Keith Brown.

The contract bid items will include all services, labor, equipment, transportation, material, and supplies needed to complete the work. Payment for these items will be provided in the compensation for drilling, sampling, drilling in areas of difficult access, recording and submitting data incidental to each item, and waste containerization costs. Any down time incurred by the subcontractor other than delay at the request of E & E will not be a payment item.

No other payments for any specified or indicated work nor for any work implied therefrom will be made. No payment will be made for drilled holes abandoned without authorization by E & E, or for drilling holes for which satisfactory samples and data are not submitted.

Prior to the start of field operations, the subcontractor shall designate his foreman or representative who will be the only individual authorized to discuss work schedules and related matters with E & E personnel.

SECTION 8: BID PARTICULARS

The quantities and items stated on the attached bid sheet are E & E's best approximation of the scope of work and are for the specific purpose of comparing bids. E & E does not guarantee that the bid quantities are correct or that stated tasks will be performed. E & E reserves the right to reduce the quantities or delete items in their entirety, and the subcontractor will not be entitled to any extra payment, over the rates bid, due to such amended quantities or deleted items. It must be stated, however, that at this time every item discussed in the scope of work is expected to be performed under this contract.

Only bids for the entire scope of work will be accepted.

Two (2) bid sheets shall be submitted for the specified work. One sheet will reflect costs associated with work performed at safety Level D. The second sheet will reflect costs for Level C. E & E will consider both cost and technical merit in selecting a subcontractor. Cost evaluation will be based on 70 percent level-D and 30 percent level-C.

Bid prices as submitted will remain valid for a period of six months from the date of bid opening in the event there is a delay in awarding the contract. A GAS Optional Form 60 may also be required.

Receipt of any contract additions sent to the bidder must be acknowledged by letter prior to the time of bid opening or by attaching the required documents to the bid at time of submittal.

The following documentation must accompany the complete bid sheets:

1. A letter addressing the following items:
 - a. An estimate of the number of days required to complete the drilling and sampling of the borings.

- b. The earliest date the subcontractor can mobilize after award of the bid.
 - c. The names of at least three references which E & E may contact; in particular, those for which the subcontractor has had experience drilling at potential hazardous waste/chemical spill sites.
 - d. The type and make of drilling equipment to be used.
- 2. Proof of minimum insurance coverage.
 - 3. The completed Representations and Certifications Regarding Subcontractor status form.
 - 4. Signed copies of the attached statement of Health and Safety Training and the attached statement of Medical Fitness.

Bids for the soil boring/sampling will be received by E & E, Cloverleaf Building #3, Suite 404, 6405 Metcalf Avenue, Overland Park, Kansas 66202 no later than 4:00 p.m., Central Standard time, January 25, 1991. The bid will be enclosed in an envelope which will have the following marking the lower left-hand corner: Bid for: Laclede Coal Gas Site, TDD #F-07-9008-020/PAN #FM00579SA, Attn: Wes McCall, Regional Subcontracts Manager.

The authorization for selected bidder to proceed with the work will be under a subcontract issued by E & E. A unit-price, time and materials type contract, with provision for designated lump sum items, will be used. A copy of E & E's General Terms for Time and Materials Contracts is included. In special cases E & E may request that a subcontractor temporarily proceed with verbal authorization only.

The project has a medium priority rating as assigned by the EPA. The bid must be reviewed and approved by E & E and EPA. E & E and the EPA reserve the right to accept the bid most advantageous to the completion of the work or to reject any or all bids, as they may determine in their sole and absolute discretion, and to proceed no further in this matter.

SECTION 9: BID ITEMS

Item 1. Mobilization and Demobilization

This item will carry all charges incidental to equipment set-up and removal, in order that the charges need not be distributed among the more variable items of the contract. The item will be paid at the contract lump sum price for mobilization and demobilization and will include the furnishing of personnel, machinery, tools, and all other equipment necessary to carry on and complete the work properly. All material or equipment furnished under this item will remain the property of the subcontractor and will be maintained, cared for, and disposed of by him. This item will include the charge for the respiratory equipment training program (Section 6). This item shall also include any costs incurred by the subcontractor for utility clearance prior to drilling, decontamination equipment and supplies, personal safety and supplies, and for moving containers of hazardous material on-site.

Item 2 Soil Borings

Item 2.1 Solid Stem Auger Soil Borings

This item will include all charges for equipment and labor necessary to the drilling of the (20) soil borings using 4-inch diameter solid stem augers. Payment will be made for this item at the per linear foot rate as bid.

Item 2.2 Hollow Stem Auger Soil Borings

This item will include all charges for equipment and labor necessary to the drilling of 5-10 soil borings using 4-inch minimum diameter hollow stem augers. Payment will be made for this item at the per linear foot rate as bid.

Item 3. Decontamination Time

This item will include all charges for labor and hourly rates for equipment down time necessary to decontaminate drilling equipment prior

to drilling the first boring, and on each occasion when drilling equipment is moved to a new boring location. This item will also include the costs associated with cleaning the continuous samplers following each use.

Item 4. Delay Time

If work by the subcontractor is delayed for more than 30 minutes as a result of action by E & E, the subcontractor will be entitled to reimbursement for each delay in excess of 30 minutes. Both the subcontractor and E & E will jointly record and verify any such instances and the time involved in excess of 30 minutes. At the project completion, the subcontractor will be paid for the accumulated totals of these delays. Payment will be at the hourly rate as bid. This payment does not include time for difficult moving.

Item 5. Collection of Continuous Soil Samples

This item will include all costs and time involved in the collection of three-hundred (300) linear feet of continuous samples. Payment will be made for this item at the per linear foot rate as bid. This item should not include the cost of boring the hole in which the continuous sampler is used. This cost is covered in Item 2.

Item 6. Difficult Moving Time

Item 6 will include only charges for time in excess of 30 minutes required to move equipment on and off specific boring locations where access is judged to be more difficult than normally encountered. Such instances must also be jointly recorded by the subcontractor and E & E. Payment will be at the hourly rate as bid.

Item 7. Backfilling of Soil Borings

This item shall include all costs for labor materials necessary to backfill each on-site soil boring. Payment will be made for this item

at the per linear foot rate as bid. Natural borehole cave is not a payment item.

Item 8. Waste Collection/Containerization

The subcontractor is required to collect and containerize all those materials developed in connection with the work described in these specifications and deemed by E & E to be suspected/known hazardous materials. The materials not deemed hazardous by E & E do not have to be collected or disposed of off-site. Potentially hazardous wastes will be segregated according to liquid/sludge or solid phases. It is anticipated that excess drilling spoils associated with the drilling of one (1) boring will require collection and containerization. Additional containerization requirements, if any, shall be determined by the E & E field project manager.

The subcontractor shall provide drums meeting the requirements of 49 CFR Part 173. As a minimum, the subcontractor will provide twelve (12) 55-gallon steel drums at the start of drilling. However, the subcontractor may be required to provide additional 55-gallon drums as needed. Downtime incurred to acquire additional drums is not a payment item.

Bid Sheet-Level D Unit Costs
 for
 Drilling and Continuous Sampling
 at the Laclede Coal Gas Site
 St. Louis, Missouri

TDD No. #F-07-9008-020 PAN #FMO0579SA

<u>BID ITEM</u>	<u>DESCRIPTION</u>	<u>PRICE</u>	<u>QUANTITIES</u>	<u>TOTALS</u>
1	Mobilization and Demobilization.....		Lump Sum =	\$ _____ (1)
2.1	Solid Stem Auger Soil Borings.....	\$ _____/L.F. X	600 L.F. =	\$ _____ (2.1)
2.2	Hollow Stem Auger Soil Borings.....	\$ _____/L.F. X	300 L.F. =	\$ _____ (2.2)
3	Decontamination Time.....	\$ _____/Hr. X	30 Hr. =	\$ _____ (3)
4	Delay Time.....	\$ _____/Hr. X	3 Hr. =	\$ _____ (4)
5	Continuous Sampling.....	\$ _____/L.F. X	300 L.F. =	\$ _____ (5)
6	Difficult Moving.....	\$ _____/Hr. X	1 Hr. =	\$ _____ (6)
7	Backfilling of Soil Borings.....	\$ _____/L.F. X	900 L.F. =	\$ _____ (7)
8	Collection and Containerization of Wastes.....	\$ _____/Ea. X	6 Drums =	\$ _____ (8)

TOTAL BID.....Add Items. \$ _____

COMPANY _____

TELEPHONE NUMBER: _____

SIGNATURE/TITLE OF AUTHORIZED COMPANY REPRESENTATIVE:

DATE: _____

Bid Sheet—Level C Unit Costs
 for
 Drilling and Continuous Sampling
 at the Laclede Coal Gas Site
 St. Louis, Missouri

TDD No. #F-07-9008-020 PAN #FMO0579SA

<u>BID ITEM</u>	<u>DESCRIPTION</u>	<u>PRICE</u>	<u>QUANTITIES</u>	<u>TOTALS</u>
1	Mobilization and Demobilization.....		Lump Sum =	\$ _____ (1)
2.1	Solid Stem Auger Soil Borings.....	\$ _____/L.F. X	600 L.F. =	\$ _____ (2.1)
2.2	Hollow Stem Auger Soil Borings.....	\$ _____/L.F. X	300 L.F. =	\$ _____ (2.2)
3	Decontamination Time.....	\$ _____/Hr. X	30 Hr. =	\$ _____ (3)
4	Delay Time.....	\$ _____/Hr. X	3 Hr. =	\$ _____ (4)
5	Continuous Sampling.....	\$ _____/L.F. X	300 L.F. =	\$ _____ (5)
6	Difficult Moving.....	\$ _____/Hr. X	1 Hr. =	\$ _____ (6)
7	Backfilling of Soil Borings.....	\$ _____/L.F. X	900 L.F. =	\$ _____ (7)
8	Collection and Containerization of Wastes.....	\$ _____/Ea. X	6 Drums =	\$ _____ (8)

TOTAL BID.....Add Items. \$ | _____ |

COMPANY _____

TELEPHONE NUMBER: _____

SIGNATURE/TITLE OF AUTHORIZED COMPANY REPRESENTATIVE:

DATE: _____

REPRESENTATIONS AND
CERTIFICATIONS REGARDING SUBCONTRACTOR STATUS

1. SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS CERTIFICATION

- A. The offeror/contractor certifies that he is ☐, is not ☐, a small business concern as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632).
- B. The offeror/contractor certifies that he is small business (as set forth in A. above) and is ☐ is not ☐, owned and controlled by socially and economically disadvantaged individuals. Such a firm is defined as one:
- ° Which is at least 51 percent owned by one or more such individuals or, in the case of publicly owned business, at least 51 percent of the stock is owned by such individuals,
 - ° Whose management and daily business operations are controlled by one or more such individuals, and
 - ° Which management and daily operations are controlled by one or more such individuals, and
 - ° Which certifies concerning said ownership and control in accordance with Section C. below.
- C. The offeror/contractor certifies that he is ☐, is not ☐, a minority individual(s) in accordance with C.1. below or that he is ☐, is not ☐, socially and economically disadvantaged in accord with Section C.2 or C.3. Socially and economically disadvantaged individuals are defined as:
1. United States citizens who are Black Americans, Hispanic Americans, Native Americans, or other specified minorities;
 2. Any other individual found to be disadvantaged pursuant to Section 8(a) of the Small Business Act (15 U.S.C. 637); or
 3. Any other individual defined as socially, and economically disadvantaged, for purposes relating to other sections of the Small Business Act.

3. WOMEN-OWNED BUSINESS

Concern is ☐, is not ☐, a woman-owned business. A woman-owned business is a business which is, at least, 51 percent owned, controlled, and operated by a woman or women. "Controlled" is defined as exercising the power to make policy decisions.

"Operated" is defined as actively involved in the day-to-day management. For the purposes of this definition, businesses which are publicly owned, joint stock associations, and business trusts may be unable to answer the question. Such businesses may voluntarily represent that they are, or are not, women-owned if this information is available.

4. PLACE OF PERFORMANCE

For the purpose of identifying work performed in labor surplus areas, we stipulate the intended principal place of performance for the work described in this offer is:

Street Address

City County State

☐ This area has been designated as a Labor Surplus Area.

FIRM _____

SIGNATURE _____

TITLE _____
(Authorized Representative)

DATE _____

APPENDIX A
STATEMENT OF MEDICAL FITNESS

This is to confirm that the following employees may engage in field activities at _____ in connection with the Subcontract Agreement between E & E and _____, dated _____, 19 __, and that all of said employees are medically fit both to perform required field activities and to utilize respiratory equipment in accordance with 29 CFR, Part 1910 and "U.S. EPA Standard Operating Safety Guides", 1094.

Authorized Subcontractor
Representative

APPENDIX B

Statement of Health and Safety Training

APPENDIX B
STATEMENT OF HEALTH AND SAFETY TRAINING

This is to confirm that the following employees may engage in field activities at _____ in connection with the scope of work provided by E & E, dated _____, 19 __, and that all of said employees are trained in the health and safety aspects addressed in 29 CFR 1910. 120 and other applicable state and federal regulations. This includes an approved 40 hour health and safety training program and any required yearly update training.

<u>NAME OF ON-SITE PERSONNEL</u>	<u>TITLE</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Authorized Subcontractor
Representative

Date

APPENDIX C
Recommended Levels of Protection

LEVELS OF PERSONNEL PROTECTION

LEVEL A

1. MSA 401 self-contained breathing apparatus
2. East Wind CP2000 encapsulating suit
3. White cotton coveralls
4. Cotton underwear
5. Surgical gloves
6. Neoprene boots with steel toe and shank
7. Butyl rubber or PVC booties
8. Disposable gloves* (additional pair)
9. Disposable booties* (additional pair)
10. Hard hat*
11. Cool pack*

LEVEL B

1. MSA 401 self-contained breathing apparatus
2. Butyl rubber apron, ankle length with sleeves
3. Butyl rubber or neoprene gloves
4. Surgical gloves
5. Neoprene boots with steel toe and shank
6. Butyl rubber booties
7. Chemical-resistant coveralls
8. Cotton underwear
9. Disposable booties* (additional pair)
10. Disposable gloves* (additional pair)
11. Hard hat with face shield*

LEVEL C

1. MSA Ultra-Twin cartridge respirator
2. Robertshaw escape mask
3. Butyl rubber gloves
4. Butyl rubber apron, ankle length with sleeves
5. Surgical gloves
6. Neoprene boots with steel toe and shank
7. Butyl rubber booties
8. Chemical-resistant coveralls
9. Cotton underwear
10. Disposable booties* (additional pair)
11. Disposable gloves* (additional pair)
12. Hard hat with face shield*

LEVEL D

1. Cotton coveralls
2. Cotton underwear
3. Safety boots/shoes
4. Safety glasses
5. Hard hat with optional face shield
6. Ultra-Twin cartridge respirator (readily available)
7. Robertshaw escape mask (readily available)
8. Work gloves

NOTE: E & E guidelines may at times exhibit minor modifications to U.S. EPA criteria.

* Optional

APPENDIX D
Sample Subcontract

SAMPLE
AGREEMENT
ECOLOGY AND ENVIRONMENT, INC.
AND

TDD No. _____

PAN _____

AGREEMENT, entered into and made effective as of the _____th day of _____, _____, by and between ECOLOGY AND ENVIRONMENT, INC., a New York corporation, with headquarters at 195 Holtz Drive, Buffalo, New York 14225 (hereafter, "E & E"), and _____, with offices at _____, _____, _____, (hereafter, the "Subcontractor").

W I T N E S S E T H:

WHEREAS, Ecology and Environment, Inc., with headquarters at 195 Holtz Drive, Buffalo, New York 14225, and a business office at 1700 North Moore Street, Suite 1105, Arlington, Virginia 22209, has entered into a contract (Contract No. 68-01-7347) with the United States Environmental Protection Agency (EPA), with an effective date of November 1, 1986, to furnish technical, engineering and managerial services in support of Remedial Response Activities at Uncontrolled Hazardous Substance Disposal Sites; and

WHEREAS, E & E, with the approval of the Government, desires to subcontract a portion of its work to the Subcontractor; and

WHEREAS, the Subcontractor agrees to provide such subcontract services in accordance with the terms stated herein.

NOW, THEREFORE, in consideration of the mutual covenants, premises, conditions and terms to be kept and performed, the parties hereto agree as follows:

GENERAL TERMS
TIME AND MATERIALS SUBCONTRACTS

1. Employment

E & E hereby agrees to engage the Subcontractor, and the Subcontractor hereby agrees to perform the services as provided for herein, and as set forth in Exhibit 1, annexed hereto and made a part hereof, in connection with the program and the Contract.

2. Scope of Work

The services to be provided by the Subcontractor for and on behalf of E & E shall be those specified in Exhibit 1, annexed hereto and made a part hereof. All services are for the purpose of supporting and assisting E & E in furnishing technical and managerial services to the EPA under the Contract. The Subcontractor shall furnish the necessary personnel, material, and service facilities (except as may be otherwise specified herein), and shall otherwise do all things necessary for or incident to the performance of the work specified in Exhibit 1, and any references contained therein.

3. Payment for Services

E & E shall pay the Subcontractor for the services performed in accordance with the Subcontractor's price schedule, annexed hereto as Exhibit 2 and made a part hereof, and in accordance with the provisions of this Subcontract. No invoice for such services shall include work in excess of forty (40) hours in any week, except as authorized in advance by the Zone Program Manager (ZPM), or such other E & E employee(s) designated in writing by the ZPM. Invoices shall be supported by documents, time sheets, itemized lists of material, or other documents as may be reasonably required by E & E and EPA.

Notwithstanding anything in this Subcontract to the contrary, the Subcontractor shall be paid for services performed on behalf of E & E pursuant to this Subcontract within thirty (30) days of receipt by E & E of payment from EPA for such services. However, payment delays shall not exceed ninety (90) days from the receipt of an approved invoice from the Subcontractor.

4. Contract Documents and Order of Preference

This Subcontract consists of the following documents:

A. This Agreement dated _____, 19____, with attached Exhibits.

B. Any special E & E "Terms and Conditions", to the extent such terms are applicable, are identified as such, and are attached hereto.

C. General Provisions for Cost-Reimbursement Type Research and Development Contracts (With Fixed Fee), together with the Alterations to General Provisions for Cost-Reimbursement Type Research and Development Contracts (With Fixed Fee) and Alterations to EPA Form 1900-17 for use in Award Fee Contracts, as listed below, where applicable, on a flowdown basis from Prime Contract No. 68-01-7347.

D. Additional General Provisions:

Clause Title:

Limitation of Funds (Incrementally Funded)

General Services Administration Supply Source

Labor Surplus Area Subcontracting Program

Notice to the Government of Labor Disputes

Subcontractor Cost or Pricing Data - Price Adjustments

Treatment of Confidential Business Information

Screening of Business Information for Claims of Confidentiality

Consistency of Cost Accounting Practices - Nondefense Contract

Administration of Cost Accounting Standards

Women-Owned Business Concerns Subcontracting Program
(Over \$500,000 or \$1,000,000 for
Construction of Any Public Facility)

Rights of First Refusal for Employment Openings

Stop Work Order

All references in the General Provisions, Alterations to General Provisions, and Additional General Provisions to the Contractor or E & E shall be deemed references to the Subcontractor, and all references to the EPA or the Government shall be deemed references to E & E.

In the event of any inconsistency in this Subcontract, the inconsistencies shall be resolved by giving precedence in the following order:

- (1) this Subcontract document;
- (2) required Government General Provisions;
- (3) approved protocols and procedures incorporated into this Subcontract;
- (4) other provisions of the Subcontract, whether incorporated by reference or otherwise.

5. Period of Performance

The period of performance of this Subcontract shall be for a term of _____ (____) days from the * notice to proceed.

6. Inspection and Acceptance

The E & E ZPMO Subcontracts Manager, or his duly authorized or designated representative, is authorized to perform inspection for acceptance and to accept materials and services to be provided.

7. F.O.B. Point

All items and materials required hereunder shall be delivered F.O.B. Destination (e.g., Job Site), with all shipping and transportation costs prepaid.

8. Tools and Materials

Tools and materials necessary for Subcontractor's performance shall be supplied by Subcontractor. Any tools or materials supplied by E & E, or created from performance of the Agreement, shall remain the property of E & E, on demand.

9. Estimated Cost

The total cost of this Subcontract is not to exceed _____ and 00/100 dollars (\$_____). *

No payments shall be made to the Subcontractor other than against a properly prepared and submitted invoice in accordance with Article 3 of this Subcontract.

10. Submission Of Claims For Reimbursement

In accordance with the provisions of this Subcontract, and the cost proposal/schedule at Exhibit 2 incorporated into and made a part hereof, each Subcontractor invoice or claim for reimbursement, along with any required supporting statements or certificates, shall be processed in accordance with the instructions entitled "Guide for the Preparation of Contractor's Claim for Reimbursement of Costs and Fees Under Cost Reimbursement Type Contracts", EPA Form 1900-34 (revised 12/77), which is incorporated herein by reference and made a part hereof. Subcontractor invoices and claims shall be submitted to the attention of the Subcontracts Manager at the address designated below:

Ecology and Environment, Inc.
Building #3 Cloverleaf
6405 Metcalf Suite 404
Overland Park, Kansas 66202
Attention: Eric Hess, RSM

for subsequent submission to EPA. E & E agrees to submit such claims promptly upon receipt thereof.

11. Notification of Changes to Subcontract

A. Definitions

As used in this Article, the term "E & E ZPMO Subcontracts Manager" does not include any representative of the E & E ZPMO Subcontracts Manager, whether or not such representative is acting within the scope of his authority.

B. Notice

The primary purpose of this Article is to obtain prompt reporting by the Subcontractor of Government or Contractor conduct which the Subcontractor considers to constitute a change to this Subcontract. Except for changes identified as such, the Subcontractor shall notify the E & E ZPMO Subcontracts Manager promptly in writing, and in any event within ten (10) calendar days from the date the Subcontractor so identifies any Government or Contractor conduct (including actions, inactions, and written or oral communications) that the Subcontractor regards as a change to the Subcontract terms and conditions. The notice shall state, on the basis of the most accurate information available to the Subcontractor, the following:

(1) the date, nature and circumstance of the conduct regarded as a change;

(2) the name, function, and activity of each Government individual, Contractor, and Subcontractor official or employee, involved in or knowledgeable of such conduct;

(3) the identification of any document(s) and the substance of any oral communication involved in such conduct; and

(4) the particular elements of contract performance for which the Subcontractor may seek an equitable adjustment under the "Changes" clause, including:

(a) those portions of the Subcontract statement of work the Subcontractor believes will be affected by the alleged change;

(b) the estimated adjustment to the Subcontract with respect to estimated cost and/or fixed fee, delivery or performance schedule; and other provisions affected by the alleged change.

C. Continued Performance

The Subcontractor shall not proceed with the alleged changes as identified in the notice required by B. above, unless notified in advance in writing by the E & E ZPMO Subcontracts Manager, in accordance with D (1), below. Until such notification is received, the Subcontractor shall continue performance of this Subcontract in accordance with its terms and conditions.

D. E & E Response

The E & E ZPMO Subcontracts Manager shall respond in writing to the notice required by B. above. In such response, the E & E ZPMO Subcontracts Manager shall either:

(1) confirm that the conduct of which the Subcontractor gave notice does constitute a change, and, when necessary, direct the mode of further performance in accordance with the "Changes" clause;

(2) countermand any communication regarded as a change;

(3) deny that the conduct of which the Subcontractor gave notice does constitute a change, and, when necessary, direct the mode of further performance; or

(4) in the event the Subcontractor's notice information is deemed inadequate to enable the making of a response as set forth in (1), (2) or (3) above, advise the Subcontractor when additional information is required and establish the date by which such additional information is to be furnished.

E. Equitable Adjustments

If the E & E ZPMO Subcontracts Manager confirms that E & E or Government conduct effected a change within the scope of the "Changes" clause, as alleged by the Subcontractor, and such conduct causes an increase or decrease in the estimated cost of, or the time required for the performance of, any part of the work under this Subcontract, whether changed or not changed by such conduct, an equitable adjustment may be made in accordance with the "Changes" clause of this Subcontract.

12. Compliance with Laws

Subcontractor shall comply with all applicable state, federal, and local laws and executive orders and regulations in the performance of its services hereunder.

13. Incremental Funding

It is understood that EPA Contract 68-01-7347 is being incrementally funded. It is, therefore, understood that this Subcontract is funded only to the extent funds are available to pay for the

Subcontractor's services in accordance with the Contract, and that the Subcontractor will be paid only to the extent funds are available for allocation to the Subcontractor under the Contract. E & E shall notify the Subcontractor thirty (30) days in advance of any period for which Contract No. 68-01-7347 with the Government has not been funded.

14. Consultant Service

The Subcontractor agrees to determine and notify E & E whether or not it or any consultant to be utilized by it under this subcontract has in effect an agreement with the Federal Government for similar services, and if so, will advise the E & E ZPMO Subcontracts Manager accordingly.

15. Designation of Patent Advisor

The Patent Advisor Office of General Counsel, EPA, Washington, D.C. 20460, is hereby designated to represent E & E in administering the "Patents and Inventions" clause in this Subcontract. Correspondence with respect to this clause should be directed to the Patent Advisor, with a copy to the EPA's Contracting Officer, and copy to the E & E ZPMO Subcontracts Manager. The requirements of the "Patents and Inventions" clause regarding the identification and mailing address of the Contracting Officer in this Subcontract may be satisfied by including this entire paragraph.

16. Federal Reports Act

In the event that it subsequently becomes a requirement of this Subcontract to collect identical information from ten (10) or more public respondents, the Federal Reports Act, 44 USC 3501, et seq., shall apply to this Subcontract. In such event, the Subcontractor shall not expend any funds to, or take any other action whatsoever, to solicit information from any of the public respondents until the EPA Contracting Officer has notified E & E in writing that the required Office of Management and Finance final clearance has been obtained, and E & E has so notified the Subcontractor. The Subcontractor shall provide to the EPA Contracting Officer, or the E & E ZPMO Subcontracts Manager, such information as will facilitate obtaining such clearance.

17. E & E ZPMO Subcontracts Manager Modification of Subcontract

Notwithstanding any of the provisions of this Subcontract, only the E & E ZPMO Subcontracts Manager is authorized to alter the scope of work set forth in Exhibit 1 of this Subcontract, or to amend or modify in any way any of the terms of the Subcontract.

18. Subcontract Consent

This Subcontract, and all amendments thereto, are subject to the prior approval of the EPA Contracting Officer, as provided for in the clause of the General Provisions entitled, "Subcontracts".

19. Organizational Conflict of Interest

A. The Subcontractor warrants that, to the best of its knowledge and belief, and except as otherwise set forth in this Subcontract, it does not have any organizational conflict of interest as defined in Paragraph B, below.

B. The term "Organizational Conflict of Interest" means a relationship exists whereby the Subcontractor (including its chief executives, directors, and proposed consultants) has interests which:

(1) may diminish its capacity to give impartial, technically sound, and objective advice and assistance, or may otherwise result in a biased work product; or

(2) may result in an unfair competitive advantage. Such interests include, but are not limited to, present or proposed contractual arrangements with an industry to be studied, present or proposed contractual agreements with a firm which manufactures or sells any substance or item to be studied, present or proposed manufacture or sale of any substance or item to be studied, and present or proposed manufacture or sale of any substance or item in competition with a substance or item to be studied under the proposed Subcontract. It is not relevant that the Subcontractor has either the reputation of being able to resist the temptation to give biased advice or the ability to resist such temptation.

C. The Subcontractor agrees that, if after the effective date of this Subcontract, it discovers an organizational conflict of interest with respect to this Subcontract, it shall make an immediate and full disclosure in writing to the EPA Contracting Officer and the E & E ZPMO Subcontracts Manager, which disclosure shall include a description of the action which the Subcontractor has taken, or proposes to take, to avoid, eliminate or neutralize the conflict. E & E may, however, terminate this Subcontract at its convenience in the event of any organizational conflict of interest if such termination would be in the best interests of itself or EPA, or if termination is required by EPA.

D. The Subcontractor agrees further that if a conflict of interest were identified prior to the execution of this Subcontract, it will adequately avoid, eliminate or neutralize the conflict in a manner satisfactory to the E & E ZPMO Subcontracts Manager and the EPA Contracting Officer.

E. In the event the Subcontractor was aware of an organizational conflict of interest any time prior to or after the execution to this Subcontract, and intentionally did not disclose the conflict to E & E or the EPA Contracting Officer, E & E may terminate the Subcontract for default, and E & E and/or the Government may invoke such other remedies as may be authorized by law.

20. Termination by E & E

Notwithstanding anything in this Subcontract to the contrary, this Subcontract may be terminated by E & E at any time, upon termination of the Contract, and the Subcontractor shall have no claim against E & E, except for services performed prior to the date of termination, and then only to the extent E & E has received payment from the Government for the services performed.

21. Remedy in the Event of Breach by the Subcontractor

In the event of any breach or failure by the Subcontractor to perform to the satisfaction of E & E under this Subcontract, E & E shall, at its discretion, be entitled to complete the work or have the work completed by a third party, and the Subcontractor

shall be liable for the difference in the cost of completing the work and the remaining payments due to the Subcontractor under the Subcontract, together with any and all damages suffered by E & E including, among others, delays and loss of payments from the Government under the Subcontract, resulting from the Subcontractor's breach.

22. Insurance Coverage to be Furnished by Subcontractor

The Subcontractor shall maintain, at its own expense, such insurance as is required by law or regulation, and at a minimum the types and amounts of insurance set forth in that clause of the General Conditions entitled, "Insurance", at the Subcontractor's sole expense, as follows:

A. The Subcontractor shall procure and maintain such insurance as is required by law or regulation, including that required by Subpart 28.3 of the Federal Acquisition Regulations (FAR) as of the date of execution of this Subcontract, and such insurance as the Contracting Officer prescribes by written direction.

B. At a minimum, the Subcontractor shall procure and maintain the following types and amounts of insurance:

(1) Workmen's compensation and occupational disease insurance in amounts sufficient to satisfy State law;

(2) Employer's liability insurance, in the minimum amount of \$100,000 per occurrence;

(3) Comprehensive general liability insurance for bodily injury, death, or loss of or damage to property of third persons, in the amount of \$1,000,000 per occurrence;

(4) When aircraft are used in the performance of the contract, aircraft public and passenger liability insurance, in such form, in such amounts, and for such periods of time as the Contracting Officer may require or approve.

C. With respect to any insurance policy, all or part of the premiums of which the Subcontractor proposes to treat as a direct cost under this Subcontract, and with respect to any proposed qualified program of self-insurance, the approval of the Contracting Officer shall be obtained prior to any claim for payment therefor. The Subcontractor shall be reimbursed for the portion allocable to this Subcontract.

The Subcontractor shall indemnify, defend and hold harmless E & E from and against all claims, damage, loss and expenses arising directly or indirectly out of the performance of the work by the Subcontractor under this Subcontract.

23. Disputes

Should any dispute arise between E & E and the Subcontractor or between E & E and the Government concerning the work performed by the Subcontractor under this Subcontract, the Subcontractor agrees to be bound by the decision of the Contracting Officer, and any appeals therefrom, to the same extent E & E is bound. The Subcontractor agrees to pay the cost of the prosecution or the processing of any dispute between E & E and the Government concerning work performed by the subcontractor, and including but not limited to administrative and legal expenses incurred by E & E in prosecuting any such claim on behalf of the Subcontractor.

The Subcontractor also agrees to pay the cost of any appeal, taken at the discretion of the Subcontractor, from the Contracting Officer's decision concerning work performed by the Subcontractor.

24. Equal Employment Opportunity

The provisions of the clause contained in FAR Subpart 22.8 in effect on the date hereof are hereby incorporated herein by reference with the following change: The word "Contractor" shall mean "Subcontractor."

25. Prohibition Against Assignment -- Subcontracting

The Subcontractor shall not further subcontract out any of the work to be performed by it under this Subcontract nor assign said Subcontract without, in each case, the prior written consent of E & E and of the Government, if appropriate.

26. Technical Direction

The Subcontractor shall promptly perform all work directed by the E & E ZPMO Subcontracts Manager or his designated representative (Subcontract Technical/Administrative Coordinator) in

accordance with the technical direction given by them which may include, but need not be limited to:

(1) the anticipated level of effort to be devoted to each task;

(2) the anticipated end product(s) of each task; and

(3) the completion date for each task.

All work so performed shall remain subject to the "Limitation of Cost" and "Limitation of Funds" provisions of this Subcontract, as well as the "Level of Effort" provisions of this Subcontract to the extent they are incorporated into and made a part hereof.

27. Standards

All services hereunder shall be performed by employees or agents of Subcontractor who are experienced and highly skilled in their profession, and in accordance with the highest standards of workmanship in their professions.

28. Designation of Property Administrator

The Contract Property Administrator, General Service Branch, Data and Support Assistance Division, EPA, Washington, D.C., 20460, is hereby designated the property administration function for this Subcontract. The Subcontractor agrees to furnish information regarding Government property to the Contract Property Administrator in the manner and to the extent required by the Contract Property Administrator or his duly designated successors, or by the E & E ZPMO Subcontracts Manager.

29. Notices

All notices and other communications required to be given under this Subcontract, and in the absence of specific direction otherwise, shall be deemed effectively made or given if written and delivered to the appropriate party at the address listed below, or at such other address or addresses as either party may, from time to time designate in writing:

With respect to E & E:
ECOLOGY AND ENVIRONMENT, INC.
Rosslyn Center - Suite 1105
1700 North Moore Street
Arlington, Virginia 22209

With respect to the Subcontractor:

30. No Waiver

No waiver by either party in any default by the other party in the performance of any provision of this Subcontract shall operate as or be construed as a waiver of any future default whether like or different in character.

31. Submission to Physical Examinations and Safety Procedures

A. Requirements. The nature of the work to be performed under this agreement is potentially hazardous. As a minimum, the Subcontractor shall satisfy all Federal, State and local statutes, regulations and ordinances regarding health and safety, including requirements of 29 CFR 1910.134.

The Subcontractor agrees to follow all E & E health and safety programs that E & E may require while performing services in connection with this subcontract. The Subcontractor further agrees to allow E&E to monitor and inspect Subcontractor's activities as required to ensure that all parties and their agents, officers and employees are in compliance with E & E health and safety plan requirements.

B. Medical Surveillance Program. Each Subcontractor employee involved in field activities under this agreement should be enrolled in a medical surveillance program, consisting of an initial medical examination, annual examinations and such interim examinations as may be required to protect or assess employee health status. The Subcontractor agrees to submit to E & E a certification for each employee assigned to this project, that said employee is enrolled in a

medical surveillance program, and has been medically certified by a physician for this work, including the use of a respirator. Certifications of employee medical status must be submitted to E & E before an employee shall be permitted to enter a hazardous waste site under this agreement.

C. Safety and Health Training Responsibility. The Subcontractor shall arrange for and require that all of its employees who will be working on a hazardous waste site take a safety and health training course which conforms to the requirements of 29CFR 1910.120 and for "intermediate level" in accordance with EPA executive Order 1440.2. This includes the 40 hours health and safety training required by OSHA. Records of follow-up training are also required. Certification of completion of such course, by each employee who is to work on site under this agreement, shall be furnished to Ecology and Environment, Inc. prior to any such employee's entering the site for any purpose.

D. First Aid Training and CPR Training. The Subcontractor agrees that its employees will not enter any site under this agreement, unless a minimum of two hazardous waste site field personnel on each site are currently certified by the American Red Cross in both Multimedia First Aid and Cardiopulmonary Resuscitation (CPR)-Modular, or equivalent.

E. Use of Equipment and Protective Clothing at Hazardous Waste Sites. The Subcontractor agrees that each employee shall wear such protective clothing and use such equipment as specified in the Site Safety Plan at all times when such employee is on the site. The Subcontractor hereby agrees to comply with the requirements set forth in 29 CFR 1910.120 and 29 CFR 1910.134 including those provisions that require facial hair to be removed and/or special facepiece lenses to be utilized by persons with poor eyesight in the event respiratory equipment is to be used. The Subcontractor hereby agrees to have its own employees submit to the authority of E & E should E & E ever determine that a health or safety concern exists, and that any Sub-subcontractors to the Subcontractor will be required to adopt and agree to the terms of this paragraph as a condition of any written agreement of other Sub-subcontract governing on-site activities.

32. Entire Agreement

This Subcontract, with all Exhibits and materials incorporated herein by reference and made part hereof, shall constitute the entire understanding between the parties and no conversations, memoranda, or other matters, whether written or oral, and previously exchanged between the parties hereto, shall alter the terms of this Subcontract.

33. Amendments in Writing

This Subcontract may be amended only by a further written agreement, duly executed, between the parties, and such amendment shall be subject to the prior approval of the Government. This Subcontract may not be changed orally.

34. Jurisdiction

This Subcontract shall be deemed to be executed in and performed in the County of Erie, of the State of New York, and any action brought pursuant to this Subcontract may be brought only in the Supreme Court of the State of New York, County of Erie.

35. Governing Law

The parties hereby agree that this Subcontract, including its validity and interpretation, shall in all respects be governed by the laws of the State of New York.

36. Working Files

The Subcontractor shall maintain accurate working files containing all work documentation including calculations, assumptions, interpretations of regulations, source of information, and other raw data required in the performance of this agreement. The Subcontractor shall provide the information contained in its working files to Ecology and Environment, Inc. upon request.

37. Technical Data

The Subcontractor hereby agrees to deliver to the E & E Subcontracts Manager within thirty (30) days after being requested to do so by E & E, the following documents:

A. All originals and copies, and all abstracts and excerpts therefrom, of all information supplied to the Subcontractor by Ecology and Environment, Inc. and specifically designated "Confidential Business Information," pursuant to the article entitled "Treatment of Confidential Business Information."

B. All originals and copies, and all abstracts and excerpts therefrom, all information collected by the Subcontractor directly from a business or from a source that represents a business or businesses, such as a trade association, pursuant to the Article entitled "Screening of Business Information for Claims of Confidentiality."

C. All originals (if originals are unavailable, copies will be acceptable) of all Technical Data* which is pertinent to the support of the Remedial Response Program and has been furnished to the Subcontractor by Ecology and Environment, Inc. or has been generated by the Subcontractor in performance of this agreement. In the event that there is any disagreement as to whether certain data is considered pertinent, the Program Manager shall make the final determination. This determination shall not be subject to the terms of the Article entitled "Disputes."

*"Technical Data" as used herein means recorded information, regardless of form or characteristic, of a scientific or technical nature. It may document research, experimental, developmental, or engineering work; or be usable or used to define a process or to procure, produce, support, maintain, or operate material. This data may be graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design type documents; in machine forms such as punched cards, magnetic tape, computer disks or printouts of data retained in computer memory. Examples of technical data include research and engineering data, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information.

D. Copies of all other types of additional data, including but not limited to: reference materials, source lists, field notes, log books, chemical data, maps, and photographs pursuant to the clause "Rights in Data--Special Works (EPAAR 1552.227-72).

E. Upon receipt of all data provided to Ecology and Environment, Inc. by the Subcontractor under this paragraph, the Contracts Administrator shall acknowledge in writing to the Subcontractor the receipt of all confidential or other data.

38. Subcontractor Accounting System

The Subcontractor shall employ an accounting system for this agreement to identify and record site specific costs on a site specific activity basis. Site specific cost documentation must be readily retrievable and sufficiently identifiable to enable cross referencing with payment vouchers for purposes of cost recovery litigations.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written.

AGREED TO AND ACCEPTED:

ECOLOGY AND ENVIRONMENT, INC.

By _____

By _____

(Signature)

(Signature)

Lewis A. Welzel

(Printed or Typed Name)

(Printed or Typed Name)

Subcontracts Manager

(Title)

(Title)

EXHIBIT 2

COST/PRICE DATA

TDD NO. _____

The work to be performed hereunder shall be on a Time and Materials basis with a not-to-exceed dollar obligation of _____. Invoices must show unit costs and proper price extension, and must be supported by appropriate documentation.

The not-to-exceed total obligated hereunder is predicated on the cost quotation of _____ dated _____, 19__ attached hereto.

Invoices are to be forwarded to ECOLOGY AND ENVIRONMENT, INC., _____ for approval by the project manager before being forwarded for processing and payment.

JUSTIFICATION FOR THE SELECTION OF THE RECOMMENDED SUBCONTRACTOR

The Region VII Technical Review Panel found all prospective bidders on this project to be technically qualified to perform this scope of work, prior to issuing the bidders packages. John Mathes and Associates, Inc. has been selected as the recommended subcontractor. The selection was made with consideration of the following: total estimated costs in levels D and C personal protection, period of response, estimated time of completion, health and safety monitoring, prior experience, suitability of proposed equipment and insurance coverage. Past experience with John Mathes and Association, Inc., has indicated that their crews are competent. We believe that the winning response represents a fair cost estimate for the scope of work proposed. Therefore, we do not recommend further solicitation from other subcontractors.

BID CALCULATION

SUBCONTRACTOR	LEVEL-C BID	LEVEL-D BID	30%-C + 70%-D BID
John Mathes & Associates			
Geotechnology Inc.			
Exploration Tech.			
Layne-Western Co.			

TABLE 5 (CONT.)
 DRILLING AT THE LACLEDE COAL GAS SITE
 ST. LOUIS, MISSOURI
 TDD# F-07-2008-020 PANA FMO05795A
 LEVEL-C BIDS

ITEM	EST. QUAN.	UNITS	JOHN MATHES & ASSOC.	GEOTECHNOLOGY INC.	EXPLORATION TECHNOLOGY INC.	LAYNE WESTERN COMPANY, INC.				
			UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
MOBILIZATION & DEMOBILIZATION										
SOLID STEM AUGER SOIL BORING										
HOLLOW STEM AUGER SOIL BORING										
DECONTAMINATION TIME										
DELAY TIME										
CONTINUOUS SAMPLING										
DIFFICULT MOVING										
BACKFILL OF SOIL BORING										
COLLECTION AND CONTAINERIZATION OF WASTE										
TOTAL BID										

file name = LCL08D01

print range = A40..W74

TABLE 5
 DRILLING AT THE LACLEDE COAL GAS SITE
 ST. LOUIS, MISSOURI
 TDD# F-87-9008-020 PANN# FMO05795A
 LEVEL-D BIDS

ITEM	EST. QUAN.	UNITS	JOHN MATHES & ASSOC.		GEOTECHNOLOGY INC.		EXPLORATION TECHNOLOGY INC.		WILAYNE WESTERN COMPANY, INC.	
			UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
MOBILIZATION & DEMOBILIZATION										
SOLID STEM AUGER SOIL BORING										
HOLLOW STEM AUGER SOIL BORING										
DECONTAMINATION TIME										
DELAY TIME										
CONTINUOUS SAMPLING										
DIFFICULT MOVING										
BACKFILL OF SOIL BORING										
COLLECTION AND CONTAINERIZATION OF WASTE										
TOTAL BID										

file name = LCL08D01

print range = A1..W34

TABLE 5 (CONT.)
 DRILLING AT THE LACLEDE COAL GAS SITE
 ST. LOUIS, MISSOURI
 TDD# F-07-9008-020 PAN# FMD05795A
 COMPARING TOTAL COSTS

CONTRACTOR	JOHAN MATHEIS & ASSOC.	GEO TECHNOLOGY INC.	HEXPLORATION TECHNOLOGY INC.	WILAYNE WESTERN COMPANY, INC.
	TOTAL	TOTAL	TOTAL	TOTAL
TOTAL BID / LEVEL-D				
TOTAL BID / LEVEL-C				
70% LEVEL-D / 30% LEVEL-C				

file name = LCLD0001

print range = A80..W38



John Mathes & Associates, Inc.

A Burlington Environmental Inc. Company

210 West Sand Bank Road
P O Box 330
Columbia, Illinois 62236-0330
618/281-7173
314/241-1785
FAX 618/281-5120

January 24, 1991

Ecology & Environment, Inc.
Cloverleaf Building #3, Suite 404
6405 Metcalf Avenue
Overland Park, Kansas 66202

Attention: Mr. Wes McCall

Reference: Bid Package - TDD No. #F-07-9008-020
PAN #FM00579SA
Laclede Coal Gas Site
St. Louis, Missouri

Dear Mr. Wes McCall:

John Mathes & Associates, Inc. (Mathes) is pleased to submit the enclosed bid package to perform drilling services at the above referenced site. Included in the bid package are the following required documents and information.

- o Completed Bid Sheets for Level "D" and Level "C" Unit Costs.
- o Mathes Statement of Qualifications, including references,
- o Drilling Methodology.
- o Proof of Minimum Insurance.
- o Completed Representations and Certifications regarding subcontractor status form.
- o Signed copies of the Health & Safety Training and Medical Fitness Statements.

Page 2
Mr. Wes McCall
January 24, 1991

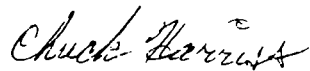
Mathes estimates seven (7) site days with a truck mounted drill rig to complete the soil borings.

One CME auger rig and a continuous tube sampler (CTS) will be used to collect continuous soil samples in the soil borings. At least two CTS tubes will be provided to facilitate the drilling and sampling activities. Standard split spoon samples will be used if the CTS becomes ineffective.

Should you have any questions or need any additional information, please call me at (618) 281-7173.

Sincerely,

JOHN MATHES & ASSOCIATES, INC.

A handwritten signature in cursive script, appearing to read "Chuck Harriss".

Chuck Harriss
Assistant Manager
Exploration Services

CSH/dmh

Enclosures

Bid Sheet-Level D Unit Costs
for
Drilling and Continuous Sampling
at the Laclede Coal Gas Site
St. Louis, Missouri

TDD No. #F-07-9008-020 PAN #FMO0579SA

<u>BID ITEM</u>	<u>DESCRIPTION</u>	<u>PRICE</u>	<u>QUANTITIES</u>	<u>TOTALS</u>
1			(1)
2.1			(2.1)
2.2			(2.2)
3		=	(3)
4			(4)
5			(5)
6		=	(6)
7		=	(7)
8			(8)
		=	.00
TOTAL BID.....Add Items.				\$

COMPANY John Mathes & Associates, Inc.

TELEPHONE NUMBER: (618) 281-7173

SIGNATURE/TITLE OF AUTHORIZED COMPANY REPRESENTATIVE:

Chuck Mathes

DATE: January 24, 1991

TDD No. #F-07-9008-020 PAN #FMO0579SA

[illegible]

COMPANY John Mathes & Associates, Inc.

TELEPHONE NUMBER: (618) 281-7173

SIGNATURE/TITLE OF AUTHORIZED COMPANY REPRESENTATIVE:

Chuck Harris Assistant Manager

DATE: January 24, 1991

REPRESENTATIONS AND
CERTIFICATIONS REGARDING SUBCONTRACTOR STATUS

1. SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS CERTIFICATION

- A. The offeror/contractor certifies that he is ☐, is not ☒, a small business concern as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632).
- B. The offeror/contractor certifies that he is small business (as set forth in A. above) and is ☐ is not ☒, owned and controlled by socially and economically disadvantaged individuals. Such a firm is defined as one:
- ° Which is at least 51 percent owned by one or more such individuals or, in the case of publicly owned business, at least 51 percent of the stock is owned by such individuals,
 - ° Whose management and daily business operations are controlled by one or more such individuals, and
 - ° Which management and daily operations are controlled by one or more such individuals, and
 - ° Which certifies concerning said ownership and control in accordance with Section C. below.
- C. The offeror/contractor certifies that he is ☐, is not ☒, a minority individual(s) in accordance with C.1. below or that he is ☐, is not ☒, socially and economically disadvantaged in accord with Section C.2 or C.3. Socially and economically disadvantaged individuals are defined as:
1. United States citizens who are Black Americans, Hispanic Americans, Native Americans, or other specified minorities;
 2. Any other individual found to be disadvantaged pursuant to Section 8(a) of the Small Business Act (15 U.S.C. 637); or
 3. Any other individual defined as socially, and economically disadvantaged, for purposes relating to other sections of the Small Business Act.

3. WOMEN-OWNED BUSINESS

Concern is ☐, is not ☒, a woman-owned business. A woman-owned business is a business which is, at least, 51 percent owned, controlled, and operated by a woman or women. "Controlled" is defined as exercising the power to make policy decisions.

"Operated" is defined as actively involved in the day-to-day management. For the purposes of this definition, businesses which are publicly owned, joint stock associations, and business trusts may be unable to answer the question. Such businesses may voluntarily represent that they are, or are not, women-owned if this information is available.

4. PLACE OF PERFORMANCE

For the purpose of identifying work performed in labor surplus areas, we stipulate the intended principal place of performance for the work described in this offer is:

<hr/>		
Street Address		
<hr/>	<hr/>	<hr/>
St. Louis		MO
City	County	State

☐ This area has been designated as a Labor Surplus Area.

FIRM John Mathes & Associates, Inc.

SIGNATURE *Chuck Harrison*

TITLE *Assistant Manager Exploration Services*
(Authorized Representative)

DATE January 24, 1991

APPENDIX A
STATEMENT OF MEDICAL FITNESS

This is to confirm that the following employees may engage in field activities at Laclede Coal Gas Site in connection with the Subcontract Agreement between E & E and Mathes, dated _____, 19 __, and that all of said employees are medically fit both to perform required field activities and to utilize respiratory equipment in accordance with 29 CFR, Part 1910 and "U.S. EPA Standard Operating Safety Guides", 1094.

Chuck Barrett
Authorized Subcontractor
Representative

APPENDIX B
STATEMENT OF HEALTH AND SAFETY TRAINING

This is to confirm that the following employees may engage in field activities at Laclede Coal Gas in connection with the scope of work provided by E & E, dated _____, 19 __, and that all of said employees are trained in the health and safety aspects addressed in 29 CFR 1910. 120 and other applicable state and federal regulations. This includes an approved 40 hour health and safety training program and any required yearly update training.

<u>NAME OF ON-SITE PERSONNEL</u>	<u>TITLE</u>
_____	Driller
_____	Driller Helper
_____	Driller Helper
_____	_____
_____	_____

Chuck Horvath
Authorized Subcontractor
Representative

1-24-91
Date

12/27/90

PRODUCER

Marsh & McLennan Incorporated
720 Olive Way
Seattle, WA 98101

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

CODE

SUB-CODE

Ronald G. Pickett

COMPANY
LETTER A

NATIONAL UNION FIRE INS. CO.

COMPANY
LETTER BCOMPANY
LETTER CCOMPANY
LETTER DCOMPANY
LETTER E

INSURED

John Mathes & Associates, Inc.
210 West Sand Bank Road
Columbia, IL 62236

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> OWNER'S & CONTRACTOR'S PROT.		12/31/90	12/31/91	GENERAL AGGREGATE	\$ 1000
					PRODUCTS-COMP/OPS AGGREGATE	\$ 1000
					PERSONAL & ADVERTISING INJURY	\$ 1000
					EACH OCCURRENCE	\$ 1000
					FIRE DAMAGE (Any one fire)	\$
					MEDICAL EXPENSE (Any one person)	\$
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/> GARAGE LIABILITY		12/31/90	12/31/91	COMBINED SINGLE LIMIT	\$ 1000
					BODILY INJURY (Per person)	\$
					BODILY INJURY (Per accident)	\$
					PROPERTY DAMAGE	\$
	EXCESS LIABILITY <input type="checkbox"/> OTHER THAN UMBRELLA FORM				EACH OCCURRENCE \$	AGGREGATE \$
A	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY		12/31/90	12/31/91	STATUTORY	
					\$	1000 (EACH ACCIDENT)
					\$	1000 (DISEASE—POLICY LIMIT)
					\$	1000 (DISEASE—EACH EMPLOYEE)
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

CERTIFICATE HOLDER

S A M P L E

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE



GEOTECHNOLOGY INC.

ENGINEERING AND ENVIRONMENTAL SERVICES

SAINT LOUIS • KANSAS CITY

January 17, 1991

P22893

Ecology & Environment, Inc.
Cloverleaf Building #3, Suite 404
6405 Metcalf
Overland Park, Kansas 66202

Attention: Mr. Wes McCall
Subcontracts Manager

Reference: Laclede Coal Gas Site
St. Louis, Missouri
TDD #F-07-9008-020/PAN #FM00579SA

Dear Mr. McCall:

Geotechnology Services, Inc. appreciates this opportunity to submit this bid for the referenced project. As requested, Geotechnology, if awarded this contract, will perform the work at the project site in accordance with the standard specifications set forth in the Information for Bidders Package or as directed by the on-site representative of Ecology & Environment, Inc.

Attached to this letter are bid sheets for Levels D and C, Representation and Certification Regarding Subcontractor Status, and proof of insurance. In addition, the following paragraphs address these items:

- 1) References
- 2) Equipment and Personnel
- 3) Schedule

References for recently completed hazardous waste work involving drilling, sampling, and monitoring well installation include:

- 1) Bechtel Environmental
Oak Ridge, Tennessee
Mr. John Kitt (615) 482-0585
Regarding: Amoco Sugar Creek Refinery

SCHEDULE

I hope this is the information you require. If you have any questions, please contact me.

GEOTECHNOLOGY SERVICES, INC.

James F. Houe

JFH:nlk

Enclosures

RESUME FOR: [REDACTED]**TITLE:** Drilling Services Manager**EMPLOYMENT SUMMARY:** Geotechnology, Inc. - Since August, 1989
Other Firms - 5 years**EDUCATION:** B.S., 1984, Petroleum Engineering**EXPERIENCE:**

[REDACTED]
engineering aspects of well design and construction.

Prior to joining Geotechnology, Inc., he was responsible for all operation activities associated with drilling new oil and gas wells for a major independent oil producer. His duties included daily cost management of large capital projects, preparing cost estimates and proposals, and management/coordination of contractors operations.

[REDACTED] environmental permitting of solid and liquid waste streams and the development of a pre-disposal waste testing program to insure compliance with EPA guidelines.

Since joining Geotechnology, Inc., [REDACTED] waste projects, including the decommissioning of monitoring wells at a hazardous waste landfill at Wilsonville, Illinois, and monitoring well installation at the Weldon Spring Training Area. [REDACTED] has also conducted hydrocarbon assessments at several UST sites. He is knowledgeable in all aspects of drilling and sampling techniques as well as chain-of-custody procedures.

[REDACTED] ed and has experience in decontamination procedures and the use of safety monitoring equipment. He is fully health and safety certified in accordance with the Occupation Safety and Health Administration standards set forth in 29 CFR Part 1910.120. In addition, he has experience in various levels of personnel protection up to and including Level B.

RESUME FOR: [REDACTED]

TITLE: Drilling Superintendent

EMPLOYMENT SUMMARY: Geotechnology, Inc. - Since January, 1987
Other Firms - 26 years

EDUCATION: Studies in Geology and Geophysics

CERTIFICATION: Health and & Safety Training - Hazardous
Waste Sites (29 CFR 1910.120)
First Aid/CPR
MSHA Safety Training

REGISTRATION: Licensed Driller; Missouri, Kansas, Iowa, Mississippi, Illinois
National Water Well Association (NWWA) Licensed Driller

EXPERIENCE: [REDACTED] has over 30 years of drilling experience covering a broad range of specialized applications, including; environmental sampling, monitoring well installation, geotechnical, mining, geophysical, water source wells, and over-water drilling and sampling.

He is an expert operator of all Geotechnology's equipment and is familiar with most other common types of drilling rigs and equipment in use today. [REDACTED] has personally drilled and completed large diameter wells to over 7,500 feet. He has also advanced continuous wireline core borings to depths of over 5,800 feet.

Since joining Geotechnology, [REDACTED] has supervised and coordinated many large-scale drilling projects requiring multiple rigs and personal protection equipment up to and including Level "B".

Recent Projects Include:

- Wilsonville Hazardous Waste Site - Wilsonville, Illinois; Monitoring Well Decommissioning.
- Weldon Spring U.S. Army Training Area - Weldon Spring, Missouri; Groundwater Investigation.
- Corps of Engineers - St. Louis District; Open-End Drilling Contract.
- Chemetco Site; Groundwater Investigation and Monitoring Well Installation.
- Bridgeport Rental and Oil Service Site; Hazardous Waste Lagoon Sediment Sampling.
- Velsicol Chemical; Installation of Monitoring Wells.

- Cross Brothers Dam Site; Installation of Monitoring Wells and Pump Wells.
- Numerous DERA sites in Oklahoma, Illinois, Wisconsin and Minnesota.
- Weldon Spring Chemical Plant - Weldon Spring, Missouri; Radiological and Chemical Sampling.
- Steagall Landfill - Galesburg, Illinois; Monitoring Well Installation for Illinois Environmental Protection Agency.
- H. Brown Superfund Site - Grand Rapids, Michigan; Soil Sampling and Monitoring installation.

In addition, [REDACTED] has experience with the following drills and equipment: Mayhew 1000, GD 1500, Failing 1500 and 2500, Longyear 65, 34, 38, 44, CP-50, Reed R-60, Schramm T-64, Dianec 250, Ingersoll-Rand T4, Simco, CME 45, 55, and 750, CP-8, and rotary up to 7,000-feet capacity.

He has used all size Longyear wireline rods, all size Christiansen WL, all size double and single tube barrels, retractable wedges, all size downhole air hammers, and Mayhew rods up to 4-1/2-inch I.D. threaded rods. [REDACTED] has set several types of packers. He has used Pitcher barrel, split spoons, Denison, Osterberg, Piston and Shelby tube diameter reamers. He has installed instruments including piezometers, inclinometers, and strain gauges. He is familiar with all types of pumps and compressors, and all types of augers and fishing tools. Projects have included: drilling 12-1/4-inch wells to over 1,000 feet; setting 9-5/8-inch casing, perforating and setting 7-5/8-inch screens and 40 h.p. Reta pumps; core drilling to 5,640 feet for underground hydroelectric generators; rotary drilling to 6,000 feet with foam and mud; grouting holes down to 5,600 feet; monitoring well installation; sampling lake bottom sediments from barge-mounted drills with piston samplers to 180 feet; supervising electric logging and swabbing units; drilling and grouting pipe for heat flow holes; coring for geophysics and setting up seismic units; directional drilling and drilling angle holes on surface; using triple tube wireline equipment; and performing pump tests to 5,600 feet.

[REDACTED] has worked at several NPL sites, including Velsicol Chemical, Cross Brothers Drum Site, and BROS Site, as well as numerous DERA projects in Oklahoma, Illinois, Wisconsin and Minnesota. Other recent experience includes monitoring well decommissioning at Wilsonville, Illinois, landfill; groundwater investigation at Weldon Spring, Missouri; and drilling projects for the U.S. Army Corps of Engineers. He has been trained and has experience on-site in the use of personnel protective equipment up to and including Level B protection.

RESUME FOR: [REDACTED]

TITLE: Driller

EMPLOYMENT SUMMARY: Geotechnology, Inc. - Since November, 1988
Other Firms - 2 1/2 years

CERTIFICATION: Health & Safety Training - Hazardous
Waste Sites (29 CFR 1910.120)
First-Aid/CPR

REGISTRATION: Licensed Driller

EXPERIENCE: Since joining Geotechnology, Inc. in 1988, [REDACTED] has gained a solid background in environmental drilling techniques and applications. He is proficient in the drilling, sampling and installation of monitoring wells in a wide variety of unconsolidated formations. His consistent performance and excellent productivity make him a valuable asset to Geotechnology, Inc.

[REDACTED] is a proficient operator of all Geotechnology's auger and rotary drill rigs. He has installed over 100 monitoring wells at gasoline underground storage tank (UST) sites in Missouri, Illinois and Iowa. He is familiar with the special considerations and methods necessary to drill sites of these types. Prior to joining Geotechnology, [REDACTED] performed hazardous waste cleanups working as a heavy equipment operator. Recent projects of note include:

- Site assessments of over 40 UST sites at various locations in Iowa; Soil Sampling and Monitoring Well Installation.
- Wilsonville Hazardous Waste Landfill - Wilsonville, Illinois; Monitoring Well Decommissioning.
- Metro Link St. Louis Light Rail System - St. Louis, Missouri; Subsurface Investigation (including drilling for underground tunnels).
- Mozingo Creek Multipurpose Dam Site - Nodaway County, Missouri; Preliminary Soil Characterization.
- Weldon Spring, U.S. Army Training Area - Weldon Spring, Missouri; Geologic Investigation and Monitoring Well Installation.
- Ft. Leonard Wood - Rolla, Missouri; Subsurface Investigation.

TDD No. #F-07-9008-020 PAN #FMO0579SA

DATE: 1/21/91

Bid Sheet-Level C Unit Costs
for
Drilling and Continuous Sampling
at the Laclede Coal Gas Site
St. Louis, Missouri

TDD No. #F-07-9008-020 PAN #FMO0579SA

<u>BID ITEM</u>	<u>DESCRIPTION</u>	<u>PRICE</u>	<u>QUANTITIES</u>	<u>TOTALS</u>
1	Mobilization and Demobilization.....	Lump Sum	=	[REDACTED]
2.1	Solid Stem Auger Soil Borings.....	[REDACTED]	[REDACTED] =	[REDACTED].1)
2.2	[REDACTED]	[REDACTED]	[REDACTED] =	[REDACTED].2)
3	[REDACTED]	[REDACTED]	[REDACTED] =	[REDACTED]
4	[REDACTED]	[REDACTED]	[REDACTED] =	[REDACTED]
5	[REDACTED]	[REDACTED]	[REDACTED] =	[REDACTED]
6	[REDACTED]	[REDACTED]	[REDACTED] =	[REDACTED]
7	[REDACTED]	[REDACTED] /L.F. X	900 L.F. =	[REDACTED]
8	[REDACTED]	[REDACTED]	[REDACTED] =	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED] =	[REDACTED]

COMPANY Geotechnology Services, Inc.

TELEPHONE NUMBER: (314) 997-7440

SIGNATURE/TITLE OF AUTHORIZED COMPANY REPRESENTATIVE:

James F. [Signature] Manager of Drilling Services

DATE: 1/21/91

REPRESENTATIONS AND
CERTIFICATIONS REGARDING SUBCONTRACTOR STATUS

1. SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS CERTIFICATION

- A. The offeror/contractor certifies that he is ☒, is not ☐, a small business concern as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632).
- B. The offeror/contractor certifies that he is small business (as set forth in A. above) and is ☐ is not ☒, owned and controlled by socially and economically disadvantaged individuals. Such a firm is defined as one:
- Which is at least 51 percent owned by one or more such individuals or, in the case of publicly owned business, at least 51 percent of the stock is owned by such individuals,
 - Whose management and daily business operations are controlled by one or more such individuals, and
 - Which management and daily operations are controlled by one or more such individuals, and
 - Which certifies concerning said ownership and control in accordance with Section C. below.
- C. The offeror/contractor certifies that he is ☐, is not ☒, a minority individual(s) in accordance with C.1. below or that he is ☐, is not ☐, socially and economically disadvantaged in accord with Section C.2 or C.3. Socially and economically disadvantaged individuals are defined as:
1. United States citizens who are Black Americans, Hispanic Americans, Native Americans, or other specified minorities;
 2. Any other individual found to be disadvantaged pursuant to Section 8(a) of the Small Business Act (15 U.S.C. 637); or
 3. Any other individual defined as socially, and economically disadvantaged, for purposes relating to other sections of the Small Business Act.

3. WOMEN-OWNED BUSINESS

Concern is ☐, is not ☒, a woman-owned business. A woman-owned business is a business which is, at least, 51 percent owned, controlled, and operated by a woman or women. "Controlled" is defined as exercising the power to make policy decisions.

"Operated" is defined as actively involved in the day-to-day management. For the purposes of this definition, businesses which are publicly owned, joint stock associations, and business trusts may be unable to answer the question. Such businesses may voluntarily represent that they are, or are not, women-owned if this information is available.

4. PLACE OF PERFORMANCE

For the purpose of identifying work performed in labor surplus areas, we stipulate the intended principal place of performance for the work described in this offer is:

Block 234 - Tract #25
Street Address

St. Louis City Missouri
City County State

☐ This area has been designated as a Labor Surplus Area.

FIRM GEOTECHNOLOGY SERVICES, INC.
SIGNATURE James T. Howe
TITLE MANAGER OF DRILLING SERVICES
(Authorized Representative)
DATE 1/17/91

11/28/90

PRODUCER
Welsch, Flatness, & Lutz, Inc.
701 Market, Suite 600
P.O. Box 66753
St. Louis, MO 63166-6753

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A Hanover Insurance Co

COMPANY B

COMPANY C

COMPANY D

COMPANY E

INSURED
Geotechnology, Inc.
Geotechnology Services, Inc.
2258 Grissom Drive
St. Louis, Mo. 63146

COVERAGES

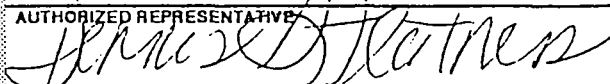
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY		09/05/90	09/05/91	GENERAL AGGREGATE \$2,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG. \$2,000,000
	<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR.				PERSONAL & ADV. INJURY \$1,000,000
	<input type="checkbox"/> OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE \$1,000,000
					FIRE DAMAGE (Any one fire) \$ 50,000
					MED. EXPENSE (Any one person) \$ 5,000
A	AUTOMOBILE LIABILITY		09/05/90	09/05/91	COMBINED SINGLE LIMIT \$1,000,000
	<input checked="" type="checkbox"/> ANY AUTO				BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per accident) \$
	<input type="checkbox"/> SCHEDULED AUTOS				PROPERTY DAMAGE \$
	<input checked="" type="checkbox"/> HIRED AUTOS				
	<input checked="" type="checkbox"/> NON-OWNED AUTOS				
	<input type="checkbox"/> GARAGE LIABILITY				
A	EXCESS LIABILITY				
	<input checked="" type="checkbox"/> UMBRELLA FORM				
	<input type="checkbox"/> OTHER THAN UMBRELLA				
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY		09/05/90	09/05/91	<input checked="" type="checkbox"/> STATUTORY LIMITS
					EACH ACCIDENT \$1,000,000
					DISEASE-POLICY LIMIT \$1,000,000
					DISEASE-EACH EMPLOYEE \$1,000,000
A	OTHER PROPERTY COVERAGE		09/05/90	09/05/91	LIMIT \$1,000,000. REPLACEMENT COST

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

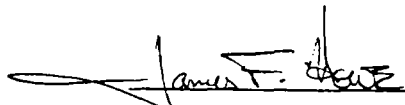
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE



APPENDIX A
STATEMENT OF MEDICAL FITNESS

This is to confirm that the following employees may engage in field activities at Laclede Coal Gas Site in connection with the Subcontract Agreement between E & E and ^{Geotechnology}Services, Inc., dated _____, 19 __, and that all of said employees are medically fit both to perform required field activities and to utilize respiratory equipment in accordance with 29 CFR, Part 1910 and "U.S. EPA Standard Operating Safety Guides", 1094.



Authorized Subcontractor
Representative

APPENDIX B
Statement of Health and Safety Training

APPENDIX B

This is to confirm that the following employees may engage in field activities at Laclede Coal Gas Site in connection with the scope of work provided by E & E, dated January 15, 19 91, and that all of said employees are trained in the health and safety aspects addressed in 29 CFR 1910.120 and other applicable state and federal regulations. This includes an approved 40 hour health and safety training program and any required yearly update training.

NAME OF ON-SITE PERSONNEL

TITLE

Drilling Superintendant

Driller

Driller's Helper

Driller's Helper

Authorized Subcontractor
Representative

Date _____



Exploration Drilling — Diamond Rock Coring — Monitor Well Installation

MADISON - 1402 EMIL STREET P.O. BOX 9404 MADISON, WI 53715 (608) 258-9550 FAX (608) 258-9069

MILWAUKEE - 11025 W. MITCHELL WEST ALLIS, WI 53214 (414) 774-5142 FAX (414) 774-5185

TWIN CITIES - 9723 VALLEY VIEW ROAD EDEN PRAIRIE, MN 55344 (612) 944-6184 FAX (612) 941-5650

January 23, 1991

Ecology and Environment Inc.
Cloverleaf Building 3
6405 Metcalf Street
Overland Park, KS 66202

Attention: Mr. Wes McCall, Regional Subcontracts Manager

Re: Drilling and soil sampling, Laclede Coal
Gas site, St. Louis, Missouri
TDD# F-07-9008-020

Dear Mr. McCall:

Exploration Technology Inc. is pleased to offer the attached bid for providing drilling and soil sampling services at your project site in St. Louis, Missouri. We are familiar with this area.

We have reviewed your scope of work and understand it.

We propose to complete the borings as specified using 4 1/4" I.D. hollow stem augers. We plan to use the hollow stem auger sampling systems. If 4 1/4" I.D. hollow stem auger sampling systems do not prove workable because of site conditions, we will use 2.0" O.D. split spoon samplers. We will also have 4.0" I.D. casing on site should methods be required.

We propose to send one truck mounted drill rig to the site. The drill rig will be a truck mounted CME 55 or a Diedrich D-50 both are capable of drilling to the depths desired. A fully self contained steam cleaner will be provided at the site for decontamination of equipment.

The drill crew will consist of three persons. Field supervision will be provided as necessary during the duration of the project.

All work will be performed to the specifications of work as indicated in the work plan. We see nothing in the work specification that to our knowledge is contrary to law or that does not meet the professional standards used in the installation of monitor wells to date. We are not able to determine what will or will not stand up in a court of law.

Ecology and Environment Inc.
Page 2
January 23, 1991

We anticipate the work to take 8 rig days. Our proposal is based on working a 10 hour day. However we are willing to work whatever schedule you desire. This projection does not include weather delays or standby time resulting from actions of owners or problems beyond our control.

We are available to meet your schedule of February 25, 1991 and can generally mobilize within 5 days of a notice to proceed.

Our qualifications for completing this work, including those of the individual drillers assigned, are included in the qualification statement attached.

For reference we offer the following:

CH2M Hill
310 West Wisconsin Avenue
Suite 700
Milwaukee, WI 53201
Mark Hinchey, Project Manager
414-272-2426

Roy F. Weston, Inc.
100 Corporate North, Suite 101
Route 22 & Lakeside Drive
Bannockburn, IL 60015
Mr. Ed Need, Project Manager
312-295-6020

Environmental Science and Engineering Inc.
11665 Lilburn Park Road
St. Louis, MO 63146
Mr. Stephen R. Carter, Project Manager
314-567-4000

A copy of our certificate of insurance is attached.

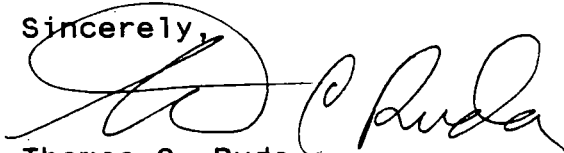

EXPLORATION
TECHNOLOGY
INC.

Ecology and Environment Inc.
Page 3
January 23, 1991

We thank you for giving us this opportunity to bid. We hope you find our bid satisfactory as we would enjoy working with your group.

Should you have any questions or need additional information, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. C. Ruda', written over a horizontal line.

Thomas C. Ruda
General Manager

Bid Sheet-Level C Unit Costs
for
Drilling and Continuous Sampling
at the Laclede Coal Gas Site
St. Louis, Missouri

TDD No. #F-07-9008-020 PAN #FMO0579SA

<u>BID ITEM</u>	<u>DESCRIPTION</u>	<u>PRICE</u>	<u>QUANTITIES</u>	
1	Mobilization and Demobilization.....			
				2.1)
				(4)
				(5)
				(6)
				(7)
			X 6 Drums =	8)

TOTAL BID.....Add Items. \$

COMPANY Exploration Technology Inc

TELEPHONE NUMBER: 608-258-9550

SIGNATURE/TITLE OF AUTHORIZED COMPANY REPRESENTATIVE:

[Signature] President

DATE: January 24, 1991

TDD No. #F-07-9008-020 PAN #FMO0579SA

DATE: January 24, 1991

CERTIFICATE OF INSURANCE
 American Family Mutual Insurance Company
 3099 East Washington Avenue
 Madison, Wisconsin 53783-0001

AMERICAN FAMILY
INSURANCE
 AUTO HOME BUSINESS HEALTH LIFE

Insured's Name and Address
 Colleen Schomburg 012-002
 101 N Sherman Ave.
 Madison, WI 53704

Tel 608-249-2181
 Fax 608-249-2184

This certificate is issued as a matter of information only and confers no rights upon the Certificate Holder.

This certificate does not amend, extend or alter the coverage afforded by the policies listed below.

Insured's Name and Address
 Exploration Technology Inc.
 402 Emil St.
 Madison, WI 53715

AVERAGES

This is to certify that policies of insurance listed below have been issued to the insured named above for the policy period indicated, not withstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain. The insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of such policies.

TYPE OF INSURANCE	POLICY NUMBER	POLICY DATE EFFECTIVE (MO, DAY, YR)	EXPIRATION (MO, DAY, YR)	LIMITS OF LIABILITY	
WORKERS COMPENSATION AND EMPLOYERS LIABILITY*		11-3-90	11-3-91	Statutory Each Accident Disease-Each Employee Disease-Policy Limit	***** \$ 100,000 \$ 100,000 \$ 500,000
GENERAL LIABILITY					
[X] Commercial General Liability (occurrence)		11-3-90	11-3-91	General Aggregate Products-Completed Operations (Aggregate) Personal and Advertising Injury Each Occurrence Fire Damage (Any One Fire) Medical Expense (Any One Person)	\$2,000,000 \$2,000,000 \$1,000,000 \$1,000,000 \$,000 \$ 5,000
[]					
BUSINESSOWNERS LIABILITY					
[] Commercial General Liability				Each Occurrence/Aggregate (Aggregate Applies To Products-Completed Operations)	\$,000
MOBILE LIABILITY					
[X] Owned Autos (Basic Form)		11-3-90	11-3-91	Bodily Injury - Each Person	\$1,000,000
[] Owned Autos (Comprehensive Form)		11-3-90	11-3-91	Bodily Injury - Each Accident	\$1,000,000
[] Hired Autos					
[] Non-owned Autos				Property Damage	\$1,000,000
[] Garage Liability				Bodily Injury and Property Damage Combined	\$,000
CESS LIABILITY					
[X] Commercial Umbrella		11-3-90	11-3-91	Each Occurrence/Aggregate	\$2,000,000
[]					
OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

*The individual or partners shown as Insureds [X]Have []Have not elected to be covered as employees under this policy.

CERTIFICATE HOLDER'S NAME AND ADDRESS

For Informational Purposes Only

CANCELATION

Should any of the above described policies be canceled before the expiration date thereof, the undersigned company will endeavor to mail *(30 days) written notice to the Certificate Holder named to the left, but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives. *10 days unless different number of days shown.

DATE ISSUED October 31, 1990

AUTHORIZED REPRESENTATIVE

Colleen Schomburg

REPRESENTATIONS AND
CERTIFICATIONS REGARDING SUBCONTRACTOR STATUS

1. SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS CERTIFICATION

- A. The offeror/contractor certifies that he is ☒, is not ☐, a small business concern as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632).
- B. The offeror/contractor certifies that he is small business (as set forth in A. above) and is ☐ is not ☒, owned and controlled by socially and economically disadvantaged individuals. Such a firm is defined as one:
- ° Which is at least 51 percent owned by one or more such individuals or, in the case of publicly owned business, at least 51 percent of the stock is owned by such individuals,
 - ° Whose management and daily business operations are controlled by one or more such individuals, and
 - ° Which management and daily operations are controlled by one or more such individuals, and
 - ° Which certifies concerning said ownership and control in accordance with Section C. below.
- C. The offeror/contractor certifies that he is ☐, is not ☒, a minority individual(s) in accordance with C.1. below or that he is ☐, is not ☒, socially and economically disadvantaged in accord with Section C.2 or C.3. Socially and economically disadvantaged individuals are defined as:
1. United States citizens who are Black Americans, Hispanic Americans, Native Americans, or other specified minorities;
 2. Any other individual found to be disadvantaged pursuant to Section 8(a) of the Small Business Act (15 U.S.C. 637); or
 3. Any other individual defined as socially, and economically disadvantaged, for purposes relating to other sections of the Small Business Act.

3. WOMEN-OWNED BUSINESS

Concern is ☐, is not ☒, a woman-owned business. A woman-owned business is a business which is, at least, 51 percent owned, controlled, and operated by a woman or women. "Controlled" is defined as exercising the power to make policy decisions.

"Operated" is defined as actively involved in the day-to-day management. For the purposes of this definition, businesses which are publicly owned, joint stock associations, and business trusts may be unable to answer the question. Such businesses may voluntarily represent that they are, or are not, women-owned if this information is available.

4. PLACE OF PERFORMANCE

For the purpose of identifying work performed in labor surplus areas, we stipulate the intended principal place of performance for the work described in this offer is:

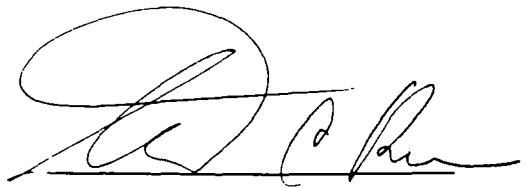
on site
Street Address
St. Louis Mo.
City County State

☐ This area has been designated as a Labor Surplus Area.

FIRM Exploration Technology Inc
SIGNATURE [Signature]
TITLE President
(Authorized Representative)
DATE January 24, 1991

APPENDIX A
STATEMENT OF MEDICAL FITNESS

This is to confirm that the following employees may engage in field activities at ST. LOUIS, MO in connection with the Subcontract Agreement between E & E and ETI, dated _____, 19 __, and that all of said employees are medically fit both to perform required field activities and to utilize respiratory equipment in accordance with 29 CFR, Part 1910 and "U.S. EPA Standard Operating Safety Guides", 1094.

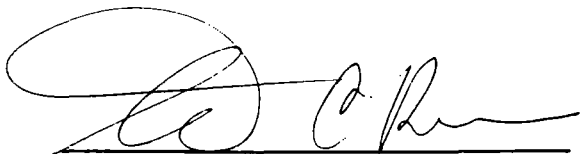


Authorized Subcontractor
Representative

APPENDIX B
STATEMENT OF HEALTH AND SAFETY TRAINING

This is to confirm that the following employees may engage in field activities at ST. Louis, MO in connection with the scope of work provided by E & E, dated _____, 19 __, and that all of said employees are trained in the health and safety aspects addressed in 29 CFR 1910. 120 and other applicable state and federal regulations. This includes an approved 40 hour health and safety training program and any required yearly update training.

<u>NAME OF</u> _____	_____
_____	<u>Driller</u>
_____	<u>Driller</u>
_____	<u>Drill Helper</u>
_____	<u>Drill Helper</u>
_____	<u>Drilling Supervisor</u>



Authorized Subcontractor
Representative

Jan 24, 1991
Date

Layne-Western Company, Inc.

2399 Cassens Drive • Fenton (St. Louis), Missouri 63026-1146 • 314/343-3700

January 24, 1991

Mr. Wes McCall
Ecology and Environment, Inc.
6405 Metcalf, Cloverleaf Building 3
Overland Park, KS 66202

RE: Environmental Drilling Services
Laclede Coal Gas Site
St. Louis, Missouri

Dear Mr. McCall:

In accordance with your request, Layne-Western Company, Inc. (Layne) is pleased to submit the enclosed bid proposal for the above referenced project.

Layne is a full service environmental drilling contractor. We only employ experienced, highly trained personnel to carry out the tasks involved in the environmental drilling field. Layne will perform this project according to the specifications included in the bidders package dated January 15, 1991.

Layne's acceptance of this project is contingent upon both parties reaching mutually agreeable contract terms and conditions. A copy of the health and safety plan will be needed prior to mobilization. Layne estimates 14 days to successfully complete this project. This schedule is subject to change due to the uncertainty in the number of hollow stem auger holes and the amount of rubble in the subsurface at the site. Layne would be available to commence work on the scheduled start date or within 1 week of authorization to proceed from E & E.

The auger rig utilized for this project would be a CME 55 or larger. We would supply a minimum of 2 CME, 5' continuous samplers for this work.

The following are references in which Layne regularly provides environmental drilling services similar to this project:

1. Mr. Dave Cika
O'Brien & Gere
5000 Cedar Plaza/Suite 211
St. Louis, MO 63128
314-842-4550



PROFESSIONAL SERVICES FOR WATER SYSTEMS

Mr. Wes McCall
Ecology and Environment, Inc.

Page 2
January 24, 1991

2. Mr. Eric Page/Mr. Chris Cummins
Law Environmental
911 Washington Ave/Suite 160
St. Louis, MO 63101
314-621-9334
3. Mr. Greg Bishoff
Riedel Environmental Services
18207 Edison Ave.
Chesterfield, MO 63005
314-532-7660

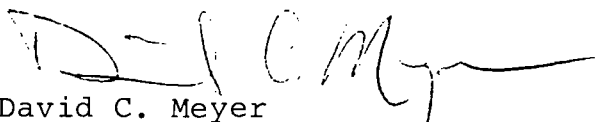
Please find the following information enclosed.

1. Bid Sheets (Level D and Level C)
2. Proof of Insurance
3. Representation and Certifications regarding subcontractor status forms
4. Statements regarding Health and Safety and medical fitness

Layne hopes this bid proposal meets with your approval. We look forward to providing environmental drilling services to Ecology and Environment, Inc. If you have any questions concerning this proposal feel free to contact myself at 314-343-3700.

Respectfully,

LAYNE-WESTERN COMPANY, INC.


David C. Meyer
Environmental Geologist

DCM:lb

Enclosure



PROFESSIONAL SERVICES FOR WATER SYSTEMS

Bid Sheet-Level D Unit Costs
 for
 Drilling and Continuous Sampling
 at the Laclede Coal Gas Site
 St. Louis, Missouri

TDD No. #F-07-9008-020 PAN #FMO0579SA

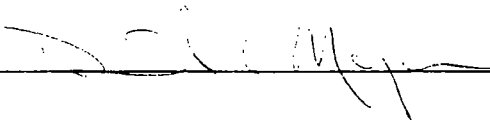
<u>BID ITEM</u>	<u>DESCRIPTION</u>				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

TOTAL BID.....Add Items. \$

COMPANY LAYNE-WESTERN COMPANY, INC.

TELEPHONE NUMBER: (314) 343-3700

SIGNATURE/TITLE OF AUTHORIZED COMPANY REPRESENTATIVE:



DATE: 1/24/91

TDD No. #F-07-9008-020 PAN #FMO0579SA

(S) (U)

[REDACTED] [REDACTED]

DATE: 3/24/91

January 24, 1991

KEY FIELD PERSONNEL

Layne-Western Company has field crews, sales, and support staff that work in the environmental sector exclusively. These individuals are trained in accordance with OSHA regulations on hazardous site worker safety. Training complies with the 40 hour course and 8 hour updates mandated by 29 CFR1910.120 (e).

The following are short resumes of key field personnel that will be considered to work on this project. Depending on when the job begins and other existing projects underway, some of these individuals may not work on the project. Any field person utilized will have equivalent experience than these listed below.

██████████ 30 years experience - ██████████ is a drilling superintendent with extensive experience with geotechnical drilling, sampling and rock coring. He has worked on a variety of environmental, geotechnical, and construction sites throughout his 30 years of experience. Experience has included safety protocol of Level D and C, drilling RCRA wells, monitor wells on private and State Superfund sites. He is familiar with direct rotary, auger drilling, diamond rock coring, and packer testing. In addition to the 40 hour OSHA hazardous site training, he has completed the 8 hour supervisor course.

██████████ 9 years experience - ██████████ is an operator for top-head drive air-rotary rigs. He has experience in drilling monitor and recovery wells at Superfund and RI/FS investigations, also included in his work experience are water supply wells and oil wells. He has worked with Level D and C personal protection equipment.

██████████ 11 years experience - ██████████ has experience at RCRA and RI/FS investigations using various sized augers, direct rotary, and both conventional and wire-line rock coring to install monitor and recovery wells along with extensive soil sampling. He has worked under Level D and C safety protocol.

██████████ 10 years experience - ██████████ is a lead driller on environmental, geotechnical, and water supply projects. He has experience at RCRA and RI/FS investigations using various sited augers, air rotary and mud rotary drilling methods for the installation of monitor, recovery, and water supply wells. He also has a couple years of oil well drilling experience. He has worked under Level D, C, and B safety protocol.

██████████ 2 years experience - ██████████ is a lead driller on environmental, geotechnical, and tese well projects. He has experience at RCRA and RI/FS investigations using auger drilling and small diameter rotary drilling methods along with various soil sampling techniques. He has installed both monitor wells and recovery wells under Level D and modified Level C safety protocol.

REPRESENTATIONS AND

CERTIFICATIONS REGARDING SUBCONTRACTOR STATUS

1. SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS CERTIFICATION

- A. The offeror/contractor certifies that he is ☐, is not ☒, a small business concern as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632).
- B. The offeror/contractor certifies that he is small business (as set forth in A. above) and is ☐ is not ☐, owned and controlled by socially and economically disadvantaged individuals. Such a firm is defined as one:
- ° Which is at least 51 percent owned by one or more such individuals or, in the case of publicly owned business, at least 51 percent of the stock is owned by such individuals,
 - ° Whose management and daily business operations are controlled by one or more such individuals, and
 - ° Which management and daily operations are controlled by one or more such individuals, and
 - ° Which certifies concerning said ownership and control in accordance with Section C. below.
- C. The offeror/contractor certifies that he is ☐, is not ☒, a minority individual(s) in accordance with C.1. below or that he is ☐, is not ☒, socially and economically disadvantaged in accord with Section C.2 or C.3. Socially and economically disadvantaged individuals are defined as:
1. United States citizens who are Black Americans, Hispanic Americans, Native Americans, or other specified minorities;
 2. Any other individual found to be disadvantaged pursuant to Section 8(a) of the Small Business Act (15 U.S.C. 637); or
 3. Any other individual defined as socially, and economically disadvantaged, for purposes relating to other sections of the Small Business Act.

3. WOMEN-OWNED BUSINESS

Concern is ☐, is not ☒, a woman-owned business. A woman-owned business is a business which is, at least, 51 percent owned, controlled, and operated by a woman or women. "Controlled" is defined as exercising the power to make policy decisions.

"Operated" is defined as actively involved in the day-to-day management. For the purposes of this definition, businesses which are publicly owned, joint stock associations, and business trusts may be unable to answer the question. Such businesses may voluntarily represent that they are, or are not, women-owned if this information is available.

4. PLACE OF PERFORMANCE

For the purpose of identifying work performed in labor surplus areas, we stipulate the intended principal place of performance for the work described in this offer is:

Mellonby @ 1st Street
Street Address

St Louis St Louis Mo
City County State

☐ This area has been designated as a Labor Surplus Area.

FIRM Layne Western Company Inc
SIGNATURE T. S. J. C. M. J.
TITLE Environmental Ecologist
(Authorized Representative)
DATE 1-24-91

APPENDIX A
STATEMENT OF MEDICAL FITNESS

This is to confirm that the following employees may engage in field activities at Laclede Colours in connection with the Subcontract Agreement between E & E and Lapine, dated _____, 19 __, and that all of said employees are medically fit both to perform required field activities and to utilize respiratory equipment in accordance with 29 CFR, Part 1910 and "U.S. EPA Standard Operating Safety Guides", 1094.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

CS / CM

Authorized Subcontractor
Representative

APPENDIX B
STATEMENT OF HEALTH AND SAFETY TRAINING

This is to confirm that the following employees may engage in field activities at San Juan Bay in connection with the scope of work provided by E & E, dated _____, 19 __, and that all of said employees are trained in the health and safety aspects addressed in 29 CFR 1910.120 and other applicable state and federal regulations. This includes an approved 40 hour health and safety training program and any required yearly update training.

<u>NAME OF ON-SITE PERSONNEL</u>	<u>TITLE</u>
[REDACTED]	<u>Supervisor</u>
[REDACTED]	<u>Deputy</u>
[REDACTED]	<u>Laborer</u>
[REDACTED]	<u>Laborer</u>
[REDACTED]	<u>Laborer</u>

[Signature]
Authorized Subcontractor
Representative

1-24-71
Date

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)

PRODUCER

FRANK B. HALL & CO. OF MO., INC.
100 N. BROADWAY, BOATMEN'S TOWER
ST. LOUIS, MO 63102
(314) 231-0100

CODE

SUB-CODE

INSURED

LAYNE-WESTERN CO., INC.
2399 CASSENS DRIVE
FENTON, MO 63026-1146

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW

COMPANIES AFFORDING COVERAGE

COMPANY
LETTER **A**

HARTFORD INSURANCE GROUP

COMPANY
LETTER **B**

COMPANY
LETTER **C**

COMPANY
LETTER **D**

COMPANY
LETTER **E**

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS
	GENERAL LIABILITY				GENERAL AGGREGATE \$5,000,
A X	COMMERCIAL GENERAL LIABILITY		05-01-90	05-01-91	PRODUCTS-COMP/OPS AGGREGATE \$3,000,
	CLAIMS MADE X OCCUR.				PERSONAL & ADVERTISING INJURY \$2,000,
	OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE \$2,000,
X	CONTRACTUAL				FIRE DAMAGE (Any one fire) \$ 250,
					MEDICAL EXPENSE (Any one person) \$ 5,
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT \$ 2,000,
X	ANY AUTO		05-01-90	05-01-91	BODILY INJURY (Per person) \$
	ALL OWNED AUTOS				BODILY INJURY (Per accident) \$
	SCHEDULED AUTOS				PROPERTY DAMAGE \$
X	HIRED AUTOS				
X	NON-OWNED AUTOS				
	GARAGE LIABILITY				
	EXCESS LIABILITY				EACH OCCURRENCE \$ AGGREGATE \$
	OTHER THAN UMBRELLA FORM				
	WORKER'S COMPENSATION				STATUTORY
	AND				\$ 2,500 (EACH ACCIDENT)
A	EMPLOYERS' LIABILITY		05-01-90	05-01-91	\$ 2,500 (DISEASE-POLICY LIMIT)
	OTHER				\$ 2,500 (DISEASE-EACH EMPLOYEE)

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

[Signature]

AAC

January 30, 1991

DOCUMENT NO. >BF011

Chuck Harriss
John Mathes and Associates, Inc.
210 West Sand Bank Road
P.O. Box 330
Columbia, Illinois 62236-0330

Attention: Chuck Harris

Re: Subcontract - Completion of thirty (30) soil borings
at the Laclede Coal Gas Site in St. Louis, Missouri.
TDD No. F-07-9008-020 PAN FM00579SA
Subcontract to be Executed.

Dear Mr. Harris:

Enclosed please find two copies of the referenced subcontract for the completion of thirty (30) soil borings at the above named site. Both copies have been signed by me on behalf of Ecology and Environment, Inc.

Please have both copies signed on behalf of John Mathes and Associates, Inc. and return one fully executed copy to me, at my Arlington, Virginia location. The other copy is to be retained for your files.

The work to be performed hereunder is to be coordinated with Wesley McCall of our Overland Park, Kansas office (913)432-9961.

Sincerely yours,

Lewis A. Welzel
Subcontracts Manager

Enclosures

AGREEMENT
ECOLOGY AND ENVIRONMENT, INC.

AND

John Mathes and Associates, Inc.

TDD No. F-07-9008-020

PAN FM00579SA

AGREEMENT, entered into and made effective as of the >_____th day of >_____, >_____, by and between ECOLOGY AND ENVIRONMENT, INC., a New York corporation, with headquarters at 368 Pleasantview Drive, Lancaster, New York 14086 (hereafter, "E & E"), and John Mathes and Associates, Inc., with offices at 210 West Sand Bank Road, P.O. Box 330, Columbia, Illinois, 62236-0330, (hereafter, the "Subcontractor").

W I T N E S S E T H:

WHEREAS, Ecology and Environment, Inc., with headquarters at 368 Pleasantview Drive, Lancaster, New York 14086, and a business office at 1700 North Moore Street, Suite 1105, Arlington, Virginia 22209, has entered into a contract (Contract No. 68-01-7347) with the United States Environmental Protection Agency (EPA), with an effective date of November 1, 1986, to furnish technical, engineering and managerial services in support of Remedial Response Activities at Uncontrolled Hazardous Substance Disposal Sites; and

WHEREAS, E & E, with the approval of the Government, desires to subcontract a portion of its work to the Subcontractor; and

WHEREAS, the Subcontractor agrees to provide such subcontract services in accordance with the terms stated herein.

NOW, THEREFORE, in consideration of the mutual covenants, premises, conditions and terms to be kept and performed, the parties hereto agree as follows:

GENERAL TERMS
TIME AND MATERIALS SUBCONTRACTS

1. Employment

E & E hereby agrees to engage the Subcontractor, and the Subcontractor hereby agrees to perform the services as provided for herein, and as set forth in Exhibit 1, annexed hereto and made a part hereof, in connection with the program and the Contract.

2. Scope of Work

The services to be provided by the Subcontractor for and on behalf of E & E shall be those specified in Exhibit 1, annexed hereto and made a part hereof. All services are for the purpose of supporting and assisting E & E in furnishing technical and managerial services to the EPA under the Contract. The Subcontractor shall furnish the necessary personnel, material, and service facilities (except as may be otherwise specified herein), and shall otherwise do all things necessary for or incident to the performance of the work specified in Exhibit 1, and any references contained therein.

3. Contract Documents and Order of Preference

A. This agreement consists of the following documents:

(1) This Subcontract Agreement dated as of the effective date written above, with attached Exhibits.

(2) The additional general provisions required by the prime Contract or Federal laws, which are hereby incorporated by reference as follows:

<u>FAR Clause Number</u>	<u>Clause Title and Application</u>
52.202-01	DEFINITIONS
52.203-01	OFFICIALS NOT TO BENEFIT
52.203-03	GRATUITIES

<u>FAR Clause Number</u>	<u>Clause Title and Application</u>
52.203-05	COVENANT AGAINST CONTINGENT FEES
52.203-06	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT
52.203-07	ANTI-KICKBACK PROCEDURES (If over \$100,000)
52.215-01	EXAMINATION OF RECORDS BY COMPTROLLER GENERAL (Negotiated Contracts over \$10,000)
52.215-02	AUDIT -- NEGOTIATION (Negotiated Contracts over \$10,000)
52.215-22	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA (Negotiated Contracts)
52.215-24	SUBCONTRACTOR COST OR PRICING DATA (Negotiated Contracts over \$100,000)
52.215-26	INTEGRITY OF UNIT PRICES (If over \$10,000)
52.216-07	ALLOWABLE COST AND PAYMENT
52.219-08	UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL DISADVANTAGED BUSINESS CONCERNS
52.219-13	UTILIZATION OF WOMEN OWNED SMALL BUSINESSES
52.220-03	UTILIZATION OF LABOR SURPLUS AREA CONCERNS
52.222-03	CONVICT LABOR
52.222-26	EQUAL OPPORTUNITY
52.222-35	AFFIRMATIVE ACTION FOR SPECIAL DISABLED AND VIETNAM ERA VETERANS (If over \$10,000)
52.222-36	AFFIRMATIVE ACTION FOR HANDICAPPED WORKERS (If over \$2,500)
52.223-02	CLEAN AIR AND WATER (If over \$100,000)
52.223-03	HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA
52.230-03	COST ACCOUNTING STANDARDS (Negotiated Contracts over \$100,000)
52.233-03	PROTEST AFTER AWARD ALTERNATE I
52.243-03	CHANGES - TIME AND MATERIALS

FAR

Clause

Number

Clause Title and Application

52.244-03

SUBCONTRACTS

52.245-05

GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME AND
MATERIAL, OR LABOR-HOUR CONTRACTS)

52.246-06

INSPECTION

52.246-25

LIMITATION OF LIABILITY--SERVICES (If over \$25,000)

EPAAR

Clause

Number

Clause Title

1552.235-70

SCREENING OF BUSINESS INFORMATION FOR CLAIMS OF
CONFIDENTIALITY

1552.235-71

TREATMENT OF CONFIDENTIAL BUSINESS INFORMATION

(3) Any special E & E "Terms and Conditions", to the extent such Terms are applicable, are identified as such, and are attached hereto.

B. In the general provisions listed above, all references to the Contractor or E & E shall be deemed references to the subcontractor, and all references to the EPA or the Government shall be deemed reference to E & E.

C. In the event of any inconsistency in this Subcontract, the inconsistencies shall be resolved by giving precedence in the following order:

- (1) This Subcontract Agreement with attached Exhibits
- (2) The Additional provisions, approved protocols and procedures incorporated into this Subcontract by reference
- (3) The General Provisions of the Contract

4. PERIOD OF PERFORMANCE

The period of performance of this Subcontract shall be for a term of > _____ (> __) days from the notice to proceed.

5. ESTIMATED COST

The total cost of this Subcontract is not to exceed

██

██

No payments shall be made to the Subcontractor other than against a properly prepared and submitted invoice in accordance with Article 8 of this Subcontract.

6. PAYMENT FOR SERVICES

E & E shall pay the Subcontractor for the services performed in accordance with the Subcontractor's price schedule, annexed hereto as Exhibit 2 and made a part hereof, and in accordance with the provisions of this Subcontract. No invoice for such services shall include work in excess of forty (40) hours in any week, except as authorized in advance by the Zone Program Manager (ZPM), or such other E & E employee(s) designated in writing by the ZPM. Invoices shall be supported by documents, time sheets, itemized lists of material, or other documents as may be reasonably required by E & E and EPA.

Notwithstanding anything in this Subcontract to the contrary, the Subcontractor shall be paid for services performed on behalf of E & E pursuant to this Subcontract within forty-five (45) days of receipt of a valid invoice by E & E for such services.

7. SUBCONTRACTOR ACCOUNTING SYSTEM

The Subcontractor shall employ an accounting system for this agreement to identify and record site specific costs on a site specific activity basis. Site specific cost documentation must be readily retrievable and sufficiently identifiable to enable cross referencing with payment vouchers for purposes of cost recovery litigations.

8. SUBMISSION OF CLAIMS FOR REIMBURSEMENT

In accordance with the provisions of this Subcontract, and the cost proposal/schedule at Exhibit 2 incorporated into and made a part hereof, each Subcontractor invoice or claim for reimbursement, along with any required supporting statements or certificates, shall be submitted to the attention of the Subcontracts Manager at the address

designated below:

ECOLOGY AND ENVIRONMENT, INC.
6405 Metcalf Ave., Suite 404
Overland Park, Kansas 66202
Attention: Wesley McCall

9. TECHNICAL DIRECTION

The Subcontractor shall promptly perform all work directed by the E & E ZPMO Subcontracts Manager or his designated representative (Subcontract Technical/Administrative Coordinator) in accordance with the technical direction given by them which may include, but need not be limited to:

- (1) the anticipated level of effort to be devoted to each task;
- (2) the anticipated end product(s) of each task; and
- (3) the completion date for each task.

All work so performed shall remain subject to the "Limitation of Cost" and "Limitation of Funds" provisions of this Subcontract, as well as the "Level of Effort" provisions of this Subcontract to the extent they are incorporated into and made a part hereof.

10. E & E ZPMO SUBCONTRACTS MANAGER MODIFICATION OF SUBCONTRACT

Notwithstanding any of the provisions of this Subcontract, only the E & E ZPMO Subcontracts Manager is authorized to alter the scope of work set forth in Exhibit 1 of this Subcontract, or to amend or modify in any way any of the terms of the Subcontract.

11. AMENDMENTS IN WRITING

This Subcontract may be amended only by a further written agreement, duly executed, between the parties, and such amendment shall be subject to the prior approval of the Government. This Subcontract may not be changed orally.

12. NOTIFICATION OF CHANGES TO SUBCONTRACT

A. Definitions

As used in this Article, the term "E & E ZPMO Subcontracts Manager" does not include any representative of the E & E ZPMO Subcontracts Manager, whether or not such representative is acting within the scope of his authority.

B. Notice

The primary purpose of this Article is to obtain prompt reporting by the Subcontractor of Government or Contractor conduct which the Subcontractor considers to constitute a change to this Subcontract. Except for changes identified as such, the Subcontractor shall notify the E & E ZPMO Subcontracts Manager promptly in writing, and in any event within ten (10) calendar days from the date the Subcontractor so identifies any Government or Contractor conduct (including actions, inactions, and written or oral communications) that the Subcontractor regards as a change to the Subcontract terms and conditions. The notice shall state, on the basis of the most accurate information available to the Subcontractor, the following:

- (1) the date, nature and circumstance of the conduct regarded as a change;
- (2) the name, function, and activity of each Government individual, Contractor, and Subcontractor official or employee, involved in or knowledgeable of such conduct;
- (3) the identification of any document(s) and the substance of any oral communication involved in such conduct; and
- (4) the particular elements of contract performance for which the Subcontractor may seek an equitable adjustment under the "Changes" clause, including:
 - (a) those portions of the Subcontract statement of work the Subcontractor believes will be affected by the alleged change;
 - (b) the estimated adjustment to the Subcontract with respect to estimated cost and/or fixed fee, delivery or performance schedule; and other provisions affected by the alleged change.

C. Continued Performance

The Subcontractor shall not proceed with the alleged changes as identified in the notice required by B. above, unless notified in advance in writing by the E & E ZPMO Subcontracts Manager, in accordance with D (1), below. Until such notification is received, the Subcontractor shall continue performance of this Subcontract in accordance with its terms and conditions.

D. E & E Response

The E & E ZPMO Subcontracts Manager shall respond in writing to the notice required by B. above. In such response, the E & E ZPMO Subcontracts Manager shall either:

(1) confirm that the conduct of which the Subcontractor gave notice does constitute a change, and, when necessary, direct the mode of further performance in accordance with the "Changes" clause;

(2) countermand any communication regarded as a change;

(3) deny that the conduct of which the Subcontractor gave notice does constitute a change, and, when necessary, direct the mode of further performance; or

(4) in the event the Subcontractor's notice information is deemed inadequate to enable the making of a response as set forth in (1), (2) or (3) above, advise the Subcontractor when additional information is required and establish the date by which such additional information is to be furnished.

E. Equitable Adjustments

If the E & E ZPMO Subcontracts Manager confirms that E & E or Government conduct effected a change within the scope of the "Changes" clause, as alleged by the Subcontractor, and such conduct causes an increase or decrease in the estimated cost of, or the time required for the performance of, any part of the work under this Subcontract, whether changed or not changed by such conduct, an equitable adjustment may be made in accordance with the "Changes" clause of this Subcontract.

13. NOTICES

All notices and other communications required to be given under this Subcontract, and in the absence of specific direction otherwise, shall be deemed effectively made or given if written and delivered to the appropriate party at the address listed below, or at such other address or addresses as either party may, from time to time designate in writing:

With respect to E & E:
ECOLOGY AND ENVIRONMENT, INC.
Rosslyn Center - Suite 1105
1700 North Moore Street
Arlington, Virginia 22209

With respect to the Subcontractor:
John Mathes and Associates, Inc.
210 West Sand Bank Road
Columbia, Illinois 62236-0330

14. COMPLIANCE WITH LAWS

Subcontractor shall comply with all applicable state, federal, and local laws and executive orders and regulations in the performance of its services hereunder.

15. HEALTH AND SAFETY

A. Requirements. The nature of the work to be performed under this agreement is potentially hazardous. As a minimum, the Subcontractor shall satisfy all Federal, State and local statutes, regulations and ordinances regarding health and safety, including the appropriate requirements set forth in 29 CFR Parts 1910 and 1926, including in particular, the provisions of 29 CFR 1910.120; 1910.132; 1910.133; and 1910.134.

The Subcontractor agrees to follow all E & E health and safety protocols that E & E may require while performing services in connection with this subcontract. The Subcontractor further agrees to allow E & E to monitor and inspect Subcontractor's activities as

to ensure that all parties and their agents, officers and employees are in compliance with E & E health and safety program or sites safety plan requirements. None of the above shall be construed to remove from Subcontractor and impose upon E & E any general supervision duty over or responsibility for the activities of Subcontractor's officers, agents, or employees.

B. Medical Surveillance Program. Each Subcontractor employee involved in field activities under this agreement should be enrolled in a medical surveillance program, consisting of an initial medical examination, annual examinations and such interim examinations as may be required to protect or assess employee health status. The Subcontractor agrees to submit to E & E a certification that each employee assigned to this project, is enrolled in a medical surveillance program, and has been medically certified by a physician for this work, including the use of a respirator. Certifications of employee medical status must be submitted to E & E before an employee shall be permitted to enter a hazardous waste site under this agreement. (See Appendix A to Exhibit 1).

C. Safety and Health Training Responsibility. The Subcontractor shall arrange for and require that all of its employees who will be working on a hazardous waste site take a safety and health training course which conforms to the requirements specified in OSHA Regulations 29 CFR 1910.120(e). Certification of completion of such courses by each employee who is to work on site under this agreement shall be furnished to Ecology and Environment, Inc. prior to any such employee's entering the site for any purpose. (See Appendix B to Exhibit 1).

D. First Aid Training and CPR Training. The Subcontractor agrees that its employees will not enter any site under this agreement, unless a minimum of two field personnel are present on the site that are currently certified by the American Red Cross in both Multimedia First Aid and Cardiopulmonary Resuscitation (CPR)-Modular, or equivalent. These trained individuals need not be subcontractor employees.

E. Use of Equipment and Protective Clothing at Hazardous Waste Sites. The Subcontractor agrees that each employee shall wear such protective clothing and use such equipment as specified in the Site Safety Plan at all times when such employee is on the site.

The Subcontractor hereby agrees to comply with the requirements set forth at 29 CFR 1910.134 including those provisions that require facial hair to be removed and/or special facepiece lenses to be utilized by persons with poor eyesight in the event respiratory equipment is to be used. The Subcontractor hereby agrees to have its own employees submit to the authority of E & E should E & E ever determine that a health or safety concern exists, and that any Sub-subcontractors to the Subcontractor will be required to adopt and agree to the terms of this paragraph as a condition of any written agreement of other Sub-subcontract governing on-site activities.

16. EQUAL EMPLOYMENT OPPORTUNITY

The provisions of the clause contained in FAR Subpart 22.8 in effect on the date hereof are hereby incorporated herein by reference with the following change: The word "Contractor" shall mean "Subcontractor."

17. PROHIBITION AGAINST ASSIGNMENT -- SUBCONTRACTING

It is understood and agreed that the Subcontractor shall be an independent contractor and that the Subcontractor shall not further subcontract out any of the work to be performed by it under this subcontract nor assign said Subcontract without, in each case, the prior written consent of E & E and of the Government, if appropriate.

18. INCREMENTAL FUNDING

It is understood that EPA Contract 68-01-7347 is being incrementally funded. It is, therefore, understood that this Subcontract is funded only to the extent funds are available to pay for the Subcontractor's services in accordance with the Contract, and that the Subcontractor will be paid only to the extent funds are available for allocation to the Subcontractor under the Contract. E & E shall notify the Subcontractor thirty (30) days in advance of any period for which

Contract No. 68-01-7347 with the Government has not been funded.

19. CONSULTANT SERVICE

The Subcontractor agrees to determine and notify E & E whether or not it or any consultant to be utilized by it under this Subcontract has in effect an agreement with the Federal Government for similar services, and if so, will advise the E & E ZPMO Subcontracts Manager accordingly.

20. FUTURE EXPERT CONSULTING SERVICES

It is recognized that, subsequent to performance under this subcontract, the need may arise to provide expert testimony during hearings, and/or court proceedings involving site specific activities or other matters, with regard to which personnel provided by the subcontractor under this contract would have gained expertise as a result of tasks performed under this contract. Therefore, the subcontractor agrees to make available expert consulting services in support of such future proceedings, and to enter into intent agreements as necessary with lower tier subcontractors (if any) to ensure the availability of such subcontractor personnel. Agreement to provide such services in the future serves as a notice of intent only. Such services are not purchased hereby, and will be obtained, as required, through a separate contractual agreement.

21. DESIGNATION OF PATENT ADVISOR

The Patent Advisor Office of General Counsel, EPA, Washington, D.C. 20460, is hereby designated to represent E & E in administering the "Patents and Inventions" clause in this Subcontract. Correspondence with respect to this clause should be directed to the Patent Advisor, with a copy to the EPA's Contracting Officer, and copy to the E & E ZPMO Subcontracts Manager. The requirements of the "Patents and Inventions" clause regarding the identification and mailing address of the Contracting Officer in this Subcontract may be satisfied by including this entire paragraph.

22. FEDERAL REPORTS ACT

In the event that it subsequently becomes a requirement of this Subcontract to collect identical information from ten (10) or more public respondents, the Federal Reports Act, 44 USC 3501, et seq., shall apply to this Subcontract. In such event, the Subcontractor shall not expend any funds to, or take any other action whatsoever, to solicit information from any of the public respondents until the EPA Contracting Officer has notified E & E in writing that the required Office of Management and Finance final clearance has been obtained, and E & E has so notified the Subcontractor. The Subcontractor shall provide to the EPA Contracting Officer, or the E & E ZPMO Subcontracts Manager, such information as will facilitate obtaining such clearance.

23. SUBCONTRACT CONSENT

This Subcontract, and all amendments thereto, are subject to the prior approval of the EPA Contracting Officer; as provided for in the clause of the General Provisions entitled, "Subcontracts".

24. ORGANIZATIONAL CONFLICT OF INTEREST

A. The Subcontractor warrants that, to the best of its knowledge and belief, and except as otherwise set forth in this Subcontract, it does not have any organizational conflict of interest as defined in Paragraph B, below.

B. The term "Organizational Conflict of Interest" means a relationship exists whereby the Subcontractor (including its chief executives, directors, and proposed consultants) has interests which:

(1) may diminish its capacity to give impartial, technically sound, and objective advice and assistance, or may otherwise result in a biased work product; or

(2) may result in an unfair competitive advantage. Such interests include, but are not limited to, present or proposed contractual arrangements with an industry to be studied, present or proposed contractual agreements with a firm which

manufactures or sells any substance or item to be studied, present or proposed manufacture or sale of any substance or item to be studied, and present or proposed manufacture or sale of any substance or item in competition with a substance or item to be studied under the proposed Subcontract. It is not relevant that the Subcontractor has either the reputation of being able to resist the temptation to give biased advice or the ability to resist such temptation.

C. The Subcontractor agrees that, if after the effective date of this Subcontract, it discovers an organizational conflict of interest with respect to this Subcontract, it shall make an immediate and full disclosure in writing to the EPA Contracting Officer and the E & E ZPMO Subcontracts Manager, which disclosure shall include a description of the action which the Subcontractor has taken, or proposes to take, to avoid, eliminate or neutralize the conflict. E & E may, however, terminate this Subcontract at its convenience in the event of any organizational conflict of interest if such termination would be in the best interests of itself or EPA, or if termination is required by EPA.

D. The Subcontractor agrees further that if a conflict of interest were identified prior to the execution of this Subcontract, it will adequately avoid, eliminate or neutralize the conflict in a manner satisfactory to the E & E ZPMO Subcontracts Manager and the EPA Contracting Officer.

E. In the event the Subcontractor was aware of an organizational conflict of interest any time prior to or after the execution to this Subcontract, and intentionally did not disclose the conflict to E & E or the EPA Contracting Officer, E & E may terminate the Subcontract for default, and E & E and/or the Government may invoke such other remedies as may be authorized by law.

25. PROJECT EMPLOYEE CONFIDENTIALITY AGREEMENT

The subcontractor agrees to obtain confidentiality agreements from all personnel working on requirements under this contract. Such agreements shall contain provisions which stipulate that each individual agrees not to disclose either in whole or in part to any entity external to EPA, DOJ, or the contractor, any technical data

provided by the Government or generated by the contractor, any site specific cost information, or any enforcement strategy without first obtaining the written permission of E & E. Such agreements shall be effective for the period of performance of E & E's prime contract and for a period of two years after the expiration of this contract, including any amendments to extend the term of this contract.

26. INSPECTION AND ACCEPTANCE

The E & E ZPMO Subcontracts Manager, or his duly authorized or designated representative, is authorized to perform inspection for acceptance and to accept materials and services to be provided.

27. F.O.B. POINT

All items and materials required hereunder shall be delivered F.O.B. Destination (e.g., Job Site), with all shipping and transportation costs prepaid.

28. TOOLS AND MATERIALS

Tools and materials necessary for Subcontractor's performance shall be supplied by Subcontractor. Any tools or materials supplied by E & E, or created from performance of the Agreement, shall remain the property of E & E, and will be returned on demand.

29. WORKING FILES

The Subcontractor shall maintain accurate working files containing all work documentation including calculations, assumptions, interpretations of regulations, source of information, and other raw data required in the performance of this agreement. The Subcontractor shall provide the information contained in its working files to Ecology and Environment, Inc. upon request.

30. TECHNICAL DATA

The Subcontractor hereby agrees to deliver to the E & E Subcontracts Manager within thirty (30) days after being requested to do so by E & E, the following documents:

A. All originals and copies, and all abstracts and excerpts therefrom, of all information supplied to the Subcontractor by Ecology and Environment, Inc. and specifically designated "Confidential Business Information," pursuant to the article entitled "Treatment of Confidential Business Information."

B. All originals and copies, and all abstracts and excerpts therefrom, all information collected by the Subcontractor directly from a business or from a source that represents a business or businesses, such as a trade association, pursuant to the Article entitled "Screening of Business Information for Claims of Confidentiality."

C. All originals (if originals are unavailable, copies will be acceptable) of all Technical Data* which is pertinent to the support of the Remedial Response Program and has been furnished to the Subcontractor by Ecology and Environment, Inc. or has been generated by the Subcontractor in performance of this agreement. In the event that there is any disagreement as to whether certain data is considered pertinent, the Program Manager shall make the final determination. This determination shall not be subject to the terms of the Article entitled "Disputes."

*"Technical Data" as used herein means recorded information, regardless of form or characteristic, of a scientific or technical nature. It may document research, experimental, developmental, or engineering work; or be usable or used to define a process or to procure, produce, support, maintain, or operate material. This data may be graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design type documents; in machine forms such as punched cards, magnetic tape, computer disks or printouts of data retained in computer memory. Examples of technical data include research and engineering data, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information.

D. Copies of all other types of additional data, including but not limited to: reference materials, source lists, field notes, log books, chemical data, maps, and photographs pursuant to the

clause "Rights in Data--Special Works (EPAAR 1552.227-72).

E. Upon receipt of all data provided to Ecology and Environment, Inc. by the Subcontractor under this paragraph, the Contracts Administrator shall acknowledge in writing to the Subcontractor the receipt of all confidential or other data.

31. TERMINATION BY E & E

Notwithstanding anything in this Subcontract to the contrary, this Subcontract may be terminated by E & E at any time, upon termination of the Contract, and the Subcontractor shall have no claim against E & E, except for services performed prior to the date of termination, and then only to the extent E & E has received payment from the Government for the services performed.

32. REMEDY IN THE EVENT OF BREACH BY THE SUBCONTRACTOR

In the event of any breach or failure by the Subcontractor to perform to the satisfaction of E & E under this Subcontract, E & E shall, at its discretion, be entitled to complete the work or have the work completed by a third party, and the Subcontractor shall be liable for the difference in the cost of completing the work and the remaining payments due to the Subcontractor under the Subcontract, together with any and all damages suffered by E & E including, among others, delays and loss of payments from the Government under the Subcontract, resulting from the Subcontractor's breach.

33. NO WAIVER

No waiver by either party in any default by the other party in the performance of any provision of this Subcontract shall operate as or be construed as a waiver of any future default whether like or different in character.

34. INSURANCE COVERAGE TO BE FURNISHED BY SUBCONTRACTOR

The Subcontractor shall maintain, at its own expense, such insurance as is required by law or regulation, and at a minimum the types and amounts of insurance set forth in that clause of the General

Conditions entitled, "Insurance", at the Subcontractor's sole expense, as follows:

A. The Subcontractor shall procure and maintain such insurance as is required by law or regulation, including that required by Subpart 28.3 of the Federal Acquisition Regulations (FAR) as of the date of execution of this Subcontract, and such insurance as the Contracting Officer prescribes by written direction.

B. At a minimum, the Subcontractor shall procure and maintain the following types and amounts of insurance:

(1) Workmen's compensation and occupational disease insurance in amounts sufficient to satisfy State law;

(2) Employer's liability insurance, in the minimum amount of \$100,000 per occurrence;

(3) Comprehensive general liability insurance for bodily injury, death, or loss of or damage to property of third persons, in the amount of \$1,000,000 per occurrence;

(4) When aircraft or vessels are used in the performance of this subcontract, public and passenger liability insurance, in such form, in such amounts, and for such periods of time as E & E may require or approve.

C. With respect to any insurance policy, all or part of the premiums of which the Subcontractor proposes to treat as a direct cost under this Subcontract, and with respect to any proposed qualified program of self-insurance, the approval of the Contracting Officer shall be obtained prior to any claim for payment therefor. The Subcontractor shall be reimbursed for the portion allocable to this Subcontract.

D. The Subcontractor shall indemnify, defend and hold harmless E & E from and against all claims, damage, loss and expenses arising directly or indirectly out of the performance of the work by the Subcontractor under this Subcontract.

35. STANDARDS

All services hereunder shall be performed by employees or agents of Subcontractor who are experienced and highly skilled in their profession, and in accordance with the highest standards of workmanship in their professions.

36. DISPUTES

Should any dispute arise between E & E and the Subcontractor or between E & E and the Government concerning the work performed by the Subcontractor under this Subcontract, the Subcontractor agrees to be bound by the decision of the Contracting Officer, and any appeals therefrom, to the same extent E & E is bound. The Subcontractor agrees to pay the cost of the prosecution or the processing of any appeal or dispute between E & E and the Government concerning work performed by the subcontractor, and including but not limited to administrative and legal expenses incurred by E & E in prosecuting any such claim or appeal on behalf of the Subcontractor.

37. DESIGNATION OF PROPERTY ADMINISTRATOR

The Contract Property Administrator, General Service Branch, Data and Support Assistance Division, EPA, Washington, D.C., 20460, is hereby designated the property administration function for this Subcontract. The Subcontractor agrees to furnish information regarding Government property to the Contract Property Administrator in the manner and to the extent required by the Contract Property Administrator or his duly designated successors, or by the E & E ZPMO Subcontracts Manager.

38. ENTIRE AGREEMENT

This Subcontract, with all Exhibits and materials incorporated herein by reference and made part hereof, shall constitute the entire understanding between the parties and no conversations, memoranda, or other matters, whether written or oral, and previously exchanged between the parties hereto, shall alter the terms of this Subcontract.

39. GOVERNING LAW

The parties hereby agree that this Subcontract, including its validity and interpretation, shall in all respects be governed by the laws of the State of New York.

40. JURISDICTION

This Subcontract shall be deemed to be executed in and performed in the County of Erie, of the State of New York, and any action brought pursuant to this Subcontract may be brought only in the Supreme Court of the State of New York, County of Erie.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written.

AGREED TO AND ACCEPTED:

> _____

ECOLOGY AND ENVIRONMENT, INC.

By _____

By _____

(Signature)

(Signature)

Chuck Harris

Lewis A. Welzel

(Printed or Typed Name)

(Printed or Typed Name)

Asst. Manager, Exploration Serv.

Subcontracts Manager

(Title)

(Title)

EXHIBIT 1

STATEMENT OF WORK

BID PACKAGE SPECIFICATIONS
SAMPLING FOR THE
LACLEDE COAL GAS SITE
St. Louis, Missouri
TDD# F-07-9008-020 PAN# FM00579SA
Keith Brown, PROJECT MANAGER

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BID SPECIFICATION
DRILLING AND SAMPLING
AT
Laclede Coal Gas Site
St. Louis, Missouri
TDD# F-07-9008-020 PAN# FM00579SA

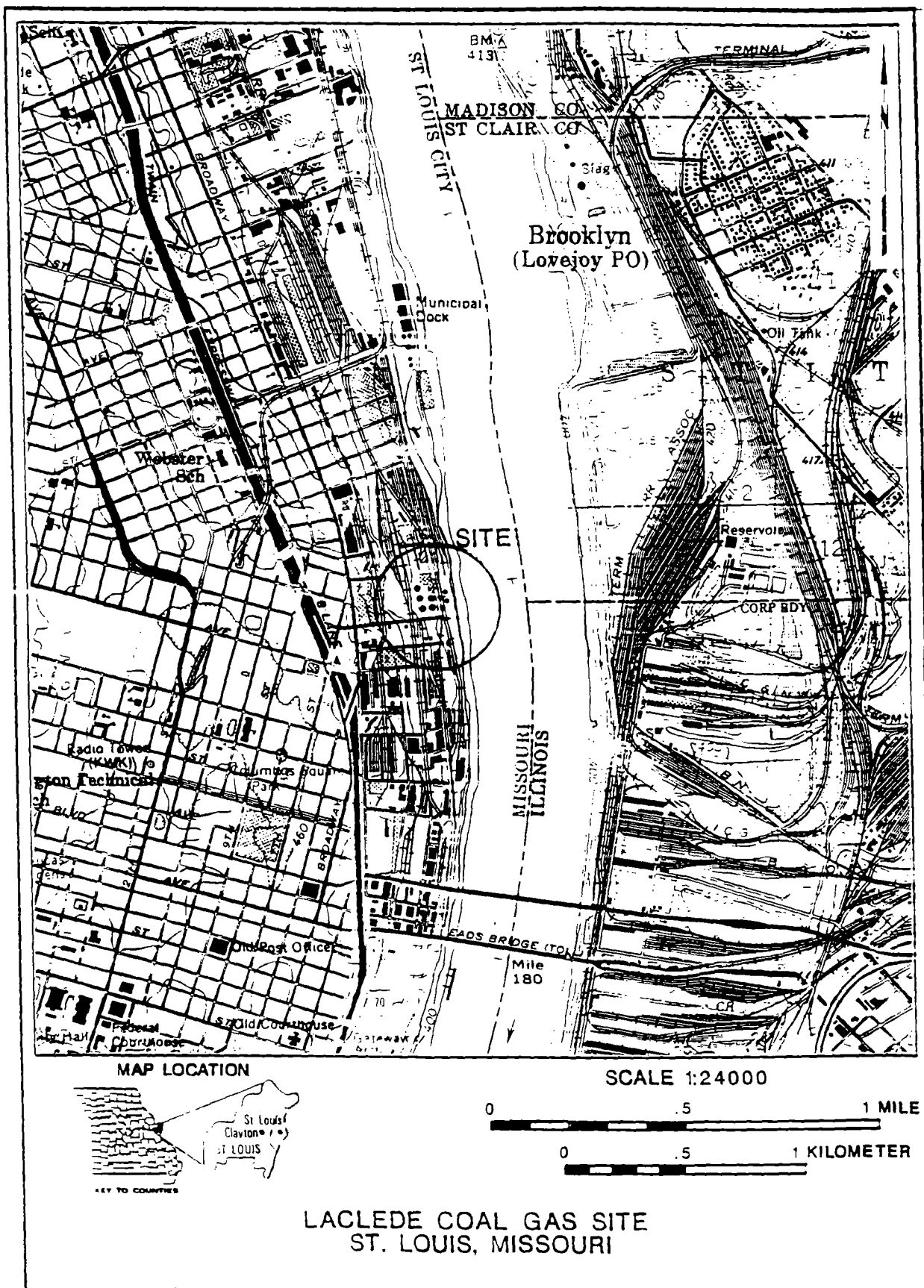
SECTION 1: GENERAL BACKGROUND

Ecology and Environment, Inc. (E & E) with a business office at 1700 N. Monroe Street, Suite 1105, Arlington, Virginia 22209 has entered into a contract (Contract No 68-01-7347) with the United State Environmental Protection Agency (EPA), dated November 1, 1986, to furnish technical, engineering and managerial services in support of Field Investigation activities at uncontrolled hazardous substance facilities.

E & E is in the process of conducting a screening site investigation in St. Louis, Missouri. As part of this investigation it is necessary to retrieve representative samples of subsurface soils. The advancement soil borings will facilitate the investigation objectives.

A search of historical documents provided information identifying this site as the location of the former Laclede Coal Gasification Plant. This facility may constitute the largest coal gas facility in Region VII.

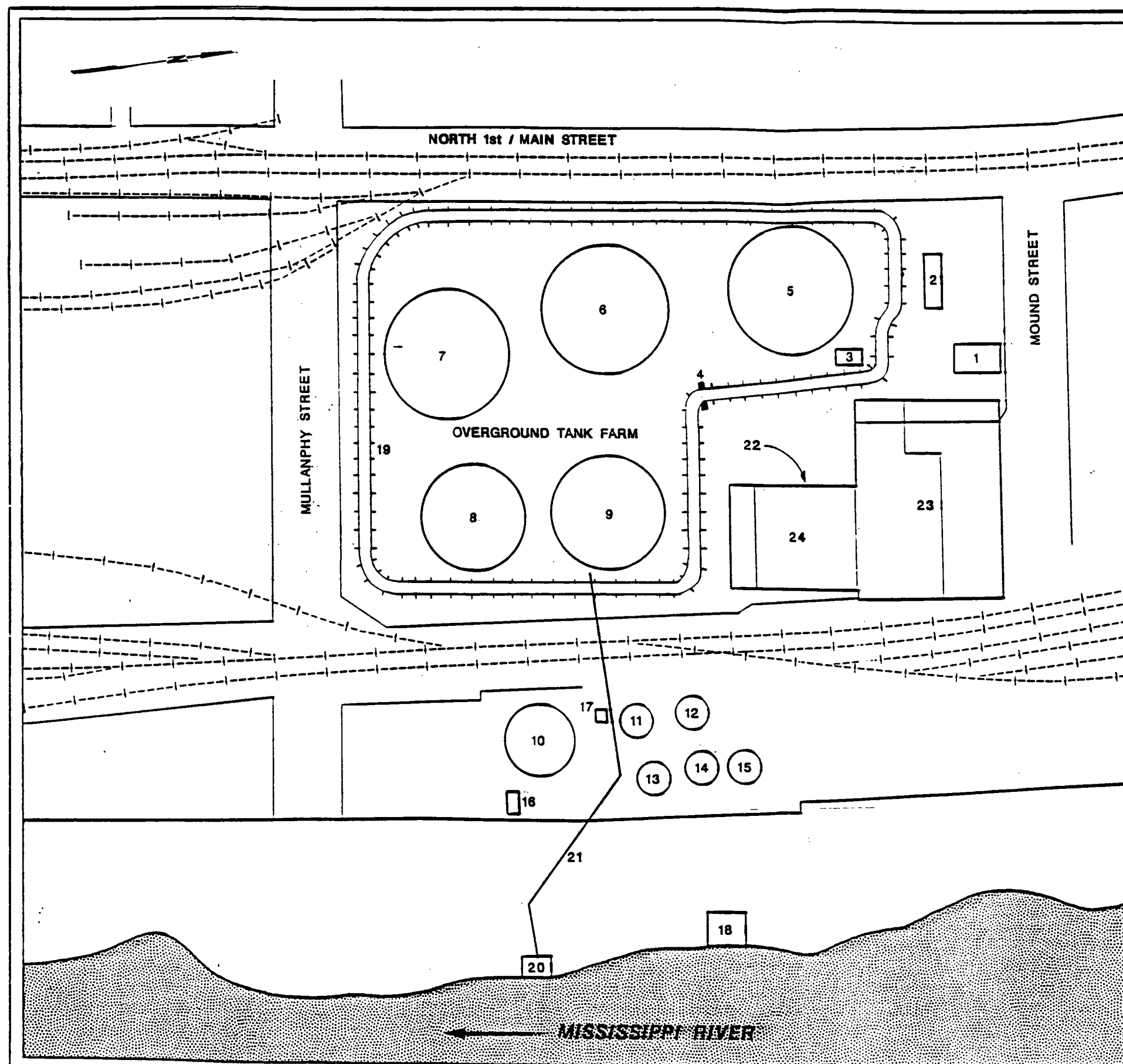
The Laclede Coal Gas site is located in St. Louis, Missouri, approximately 1 mile north of the St. Louis Arch, along the Mississippi River (Figure 1-1). The legal description of the power plant is city block 234-Tract #25, St. Louis Plan. The site is located in an industrial area adjacent to the river. Several large warehouses, a petroleum tank farm, and a large grain storage facility are all located within 1/4 mile of the facility. A tank farm has been constructed over a portion of the site. Currently, the northeast portion of the site is occupied by the former Mound St. Power Plant building, and the Apex Oil Company St. Louis terminal occupies the western half of the site (Figure 1-2).



WASTE SITE TRACKING NO.: MO0579
PREPARED BY: C. WILLIAMS

ECOLOGY & ENVIRONMENT FIT JAN. 1988
SOURCE: USGS 7.5' GRANITE CITY, IL. QUAD. 1982

FIGURE 1-1 : SITE LOCATION



EXPLANATION

APEX OIL COMPANY ST. LOUIS TERMINAL STRUCTURES

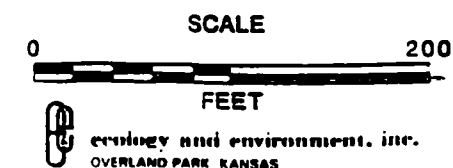
1. OFFICE
2. TANKER TRUCK LOADING PLATFORM
3. EQUIPMENT SHED
4. ENCLOSURE DRAIN PIPE
5. FUEL OIL TANK (80,000 Barrels)
6. FUEL OIL TANK (80,000 Barrels)
7. FUEL OIL TANK (80,000 Barrels)
8. FUEL OIL TANK (50,000 Barrels)
9. FUEL OIL TANK (55,000 Barrels)
10. OIL TANK
11. CRUDE OIL TANK
12. CRUDE OIL TANK
13. CRUDE OIL TANK
14. CRUDE OIL TANK
15. CRUDE OIL TANK
16. PUMP HOUSE
17. PUMP HOUSE
18. PUMP HOUSE (Abandoned)
19. CONTAINMENT BERM
(For Fuel Oil Tanks, Capped With A Chain-link Fence)
20. PUMP HOUSE
21. RIVER TANKER OFF-LOADING PIPES

FORMER UNION ELECTRIC MOUND ST. FACILITY (Currently Owned By Mound St. Corp.)

22. FORMER UNION ELECTRIC BUILDING
GENERATOR ROOM (Basement Plan)
23. BOILER ROOM (Basement Plan)
24. BOILER ROOM (Basement Plan)

LACLEDE COAL GAS SITE ST. LOUIS, MISSOURI (PRESENT DAY CONFIGURATION)

FIGURE 1-2



The site is not secured and access to the grounds buildings is relatively unrestricted. There are locks on most doors and a fence surrounds the petroleum storage tanks, no other security exists.

The two waste products of primary concern are tar sludges (coal tars) and spent oxides. Ammonia wastes are also by-products of this production process, but are not considered hazardous. Coal tar wastes are primarily polynuclear aromatic hydrocarbons (PAHs) and phenolics produced during coal or coke combustion and during the oil injection process. Spent iron oxide wastes are produced during the gas purification process where impurities are removed from the manufactured gas. Iron oxide wastes contain sulfur compounds, cyanide compounds, and small quantities of coal tar. Light aromatics such as benzene, toluene, and xylene (volatile organic compounds) also are occasional constituents of coal tar wastes.

This drilling phase of the project will require the advancement of twenty (20) borings using solid stem augers to a maximum depth of thirty (30) feet and 5 to 10 borings using hollow stem augers and continuous samples to a maximum depth of 30 feet. The borings will be taken at 20 selected locations throughout the site. The borings will be used to classify the site soils and locate any significant tar waste pits.

All 20 locations will be drilled initially using 4-inch diameter solid stem augers in order to screen the location for contaminants. A screening sample will be collected from the side of the auger as it comes out of the hole every 5 feet (each flight). A mobile laboratory will analyze the screening samples on site for selected semi-volatile and volatile organic compounds.

After the screening sample results are complete, locations which contained significant contaminants will be drilled again using continuous sampling with 4-inch diameter hollow stem augers. It is estimated that 5 to 10 continuous sampled boreholes will be required. Split spoon sampling will be used as a backup to continuous sampling, if needed.

SECTION 2: INFORMATION TO BIDDERS

Questions regarding specific aspects of the work to be performed should be directed to the attention of the E & E project manager, Keith Brown (913/432-9961), and questions concerning contract procedures should be addressed to the E & E ZPMO subcontracts Manager, Mr. Lewis A. Welzel (703/522-6065) or the E & E Regional Subcontracts Manager, Mr. Wes McCall (913/432-9961).

Soil borings will be advanced with solid stem augers, at twenty (20) locations to a depth of thirty (30) feet. The borings will be taken at selected points throughout the site. Five to ten additional borings shall be continuously sampled to a depth of thirty (30) feet.

Access to private property will be arranged by E & E and the EPA prior to commencement of the project. All subcontractor personnel must coordinate entry onto the site with E & E.

Three subcontractor personnel are required to perform this job task. Before the commencement of the drilling work, E & E will conduct a site orientation session for subcontractor personnel. The session will cover site safety, the use of respiratory protective equipment, and decontamination procedures. The training will be held at the site or at a mutually agreeable location, and it will take approximately one half hour. It is the subcontractor's responsibility to have enough personnel present at the training session to adequately cover any unanticipated crew member changes. Coordination and scheduling of such training will be with the above-named E & E technical project manager.

This project has a medium priority rating as assigned by the EPA. The present schedule calls for mobilization of equipment on-site by February 25, 1991.

SECTION 3: SOILS, STRATIGRAPHY, AND HYDROGEOLOGY

The soils in the area belong to the Harvester, Fishpot and Urban Land associations. These soils are classified as fine loams to fine silty clay loams. On site, the soils belong to the Urban land, bottom land unit. This unit consists of areas in which more than 85 percent of the surface is covered by asphalt, concrete, buildings, or other impervious material.

The area was originally bottom land which was built-up to protect the site from flooding. The amount of fill in the areas can range from 0 to over 20 feet, and could consist of sands and construction debris. Variability of the soils in the area makes identification impractical without a detailed on-site investigation. Figure 3-1 depicts the thickness of the alluvium along the Missouri, Mississippi, and Meramac rivers in St. Louis County.

The bedrock stratigraphy beneath the site belongs to the upper Mississippian and lower Pennsylvanian systems, which are roughly 286 to 360 million years old. Figure 3-2 shows that these systems are subdivided, in descending order, into the Pleasanton, Marmaton and Cherokee groups of the Pennsylvanian System, and the Meramacian series of the Mississippian System.

The Meramacian Series contains the following formations: Warsaw, Salem, St. Louis, and Ste. Genevieve. The predominant rock type is a finely crystalline, sometimes fossiliferous limestone with some dolomite. This series displays a typical cyclothemic succession (transgressive/regressive limestones with interbedded shales) though not necessarily a complete one. Chert is a very common accessory in the upper portions of the series.

The overlying Pennsylvanian deposits are predominantly clastic in origin. However, numerous limestone, coal and shale beds occur. The

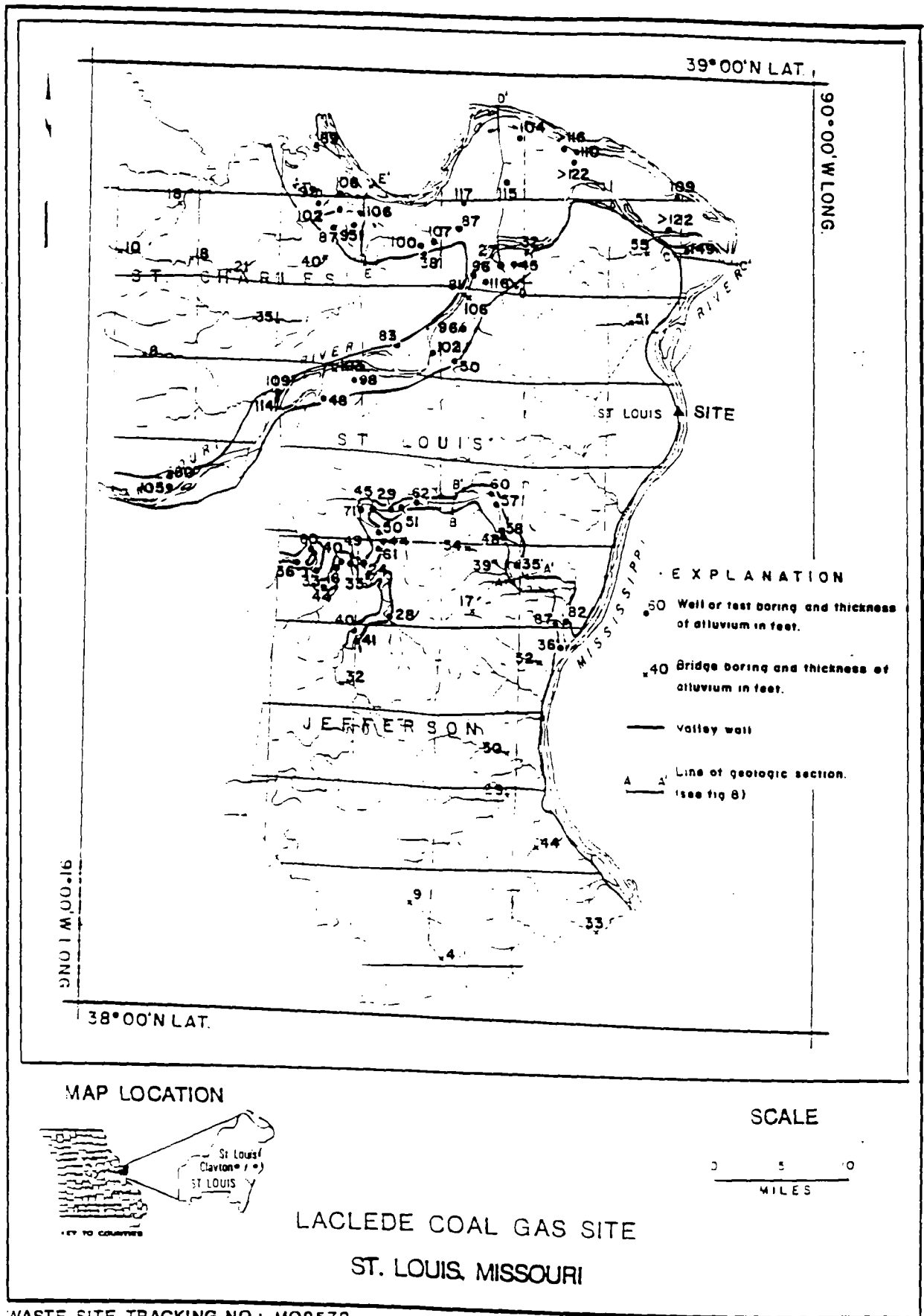
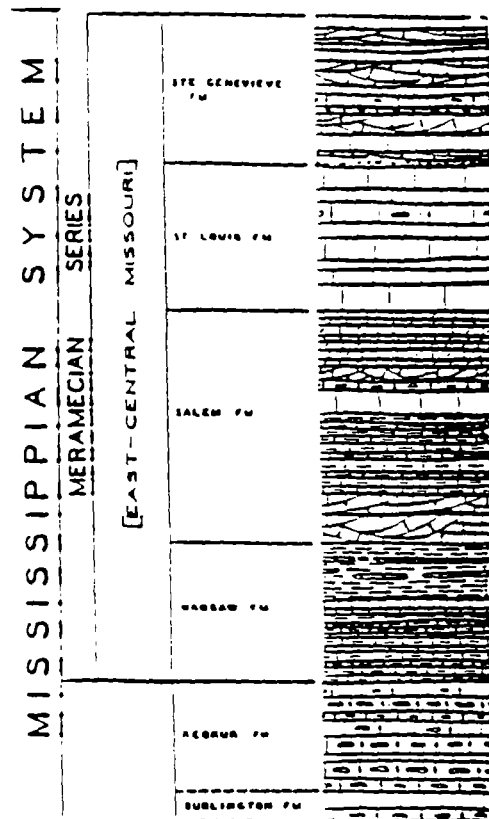
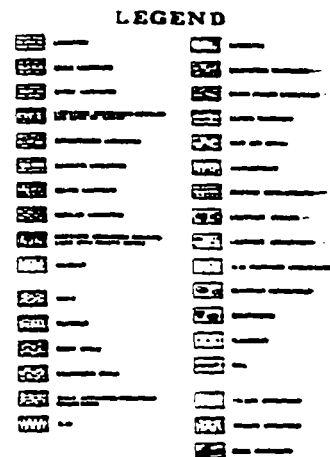
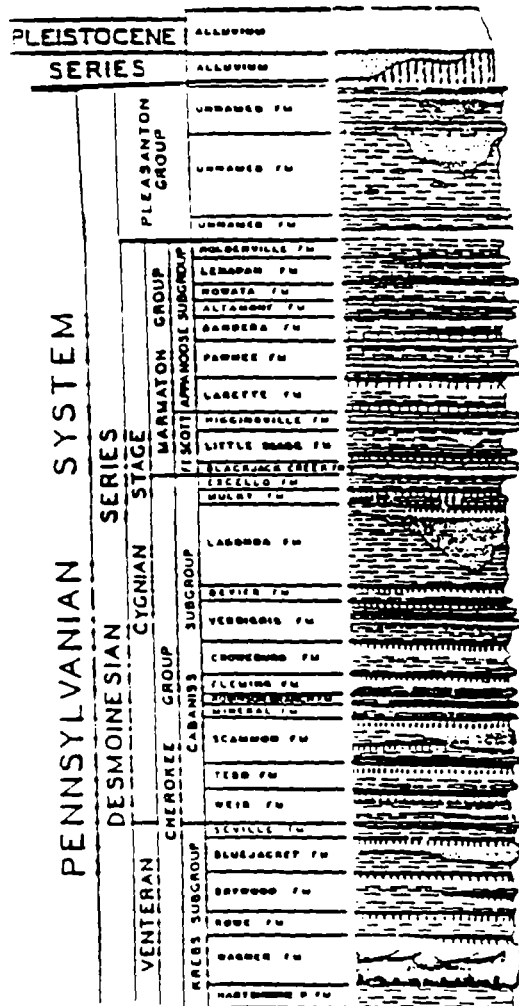


FIGURE 3-1: ALLUVIUM THICKNESS ALONG THE MISSOURI, MISSISSIPPI AND MEANES RIVERS



LACLEDE COAL GAS SITE

ST. LOUIS, MISSOURI

lower groups (Cherokee and Marmation) have formal subdivisions while the Pleasanton consists of undifferentiated shales, siltstones, sandstone, coal, and, to a lesser degree, limestone.

The specific stratigraphy beneath the site can be inferred from regional data. However, for more accurate information a more in depth, site specific geologic study would be useful.

The bedrock aquifers for the region are divided into five discrete units appropriately labeled one through five. Figure 3-3 shows the section view of the aquifers and Figure 3-4 shows the distribution. Group one, the Post-Maquoketa group, includes the strata above the Kimmswick Formation to the surface. Below this aquifer group lies the Maquoketa shale. Based on current information, the shale acts as an aquitard. Group two is the Ordovician age Kimmswick-Joachim aquifer. Near the top of this unit is the Decorah Formation, which probable acts as a confining bed composed of shales and interbedded limestones. The remaining lower three aquifers are separated primarily on the basis of unconformities. It is likely these aquifer groups; in descending order, the St. Peter-Everton, Powell-Gasconade and the Eminence-Lamotte are hydraulically connected.

Generally the bedrock aquifers of the region yield very small quantities of water; roughly 0 to 50 gallons per minute (gpm). The alluvial aquifers (Post-Maquoketa) completed along the Meramac, Mississippi, and Missouri rivers can provide much larger quantities. For example, the Weldon Springs Ordinance Plant production well yields almost 2,000 gpm. Other larger yield industrial wells may be located near the rivers so that water would be drawn from these surface sources.

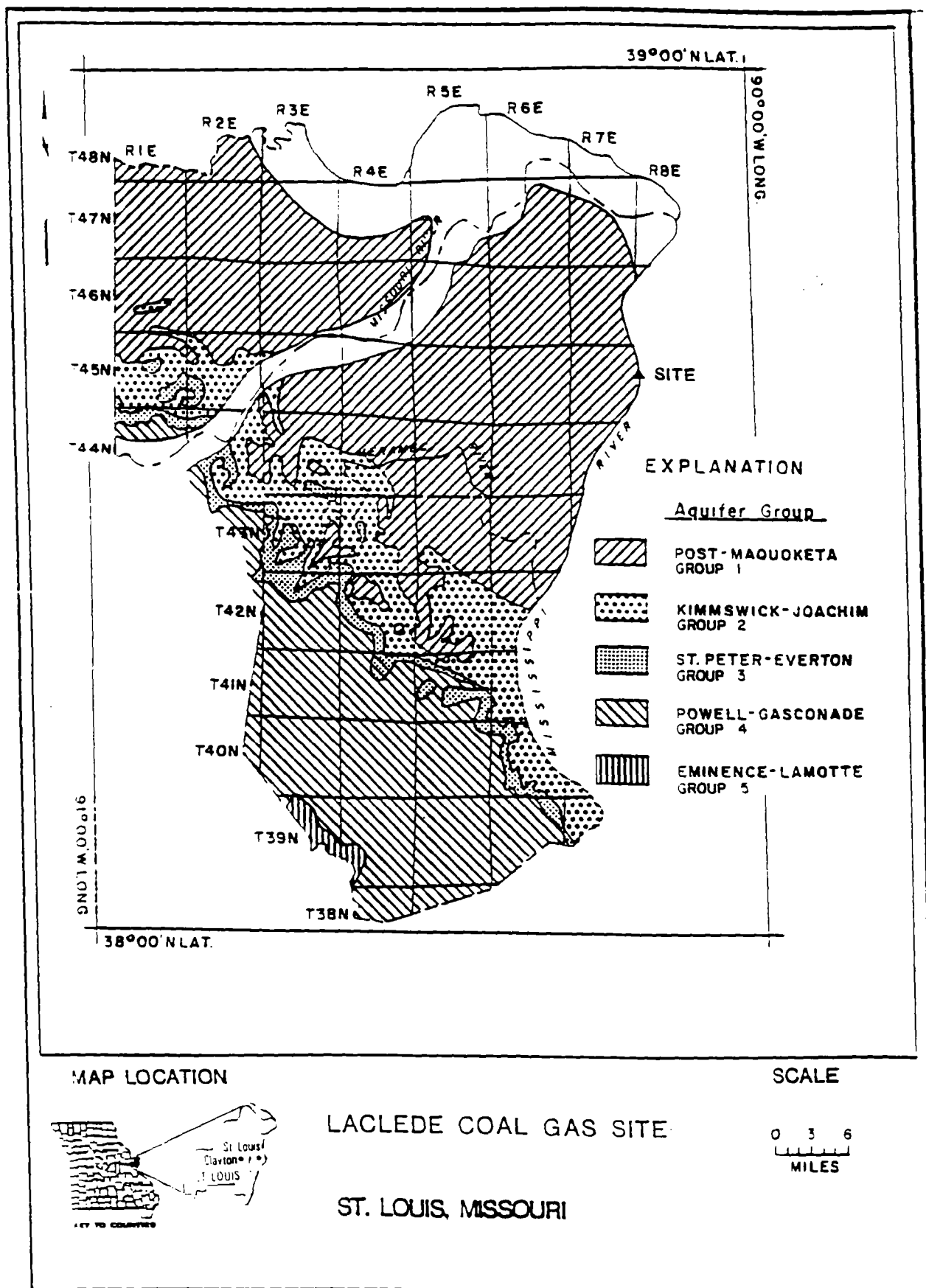
Aquifers most favorable as water sources are shaded

System	Series	Group	Formation	Aquifer group	Thickness (feet)	Dominant lithology	Water-bearing character
Quaternary	Holocene		Alluvium		0-150	Sand, gravel, silt, and clay.	Some wells yield more than 1,000 gpm.
	Pleistocene		Glacial till		0-10 0-55	Silt Pebbly clay and silt.	Essentially not water yielding
Pennsylvanian	Desmoinesian	Acadian	Missourian		0-75	Shales, siltstones.	Generally yields very small quantities of water to wells.
			Meramec		0-40	"dirty" sandstones, coal beds and thin limestone beds.	Yields range from 0-10 gpm.
			Osage		0-200		
			Osage				
Mississippian	Osagean	Shoutean	St. Genevieve Formation		0-140	Argillaceous to arenaceous limestone.	
			St. Louis Limestone		0-180		
			Salem Formation		0-180		
			Barlow Formation		0-110		
			Burlington-Knox Limestone		0-240	Cherty limestone	
Devonian	Upper	Julimar Springs	Fern Glen Formation		0-105	Red limestone and shale	Yields small to moderate quantities of water to wells. Yields range from 5 to 50 gpm. Higher yields are reported for this interval locally.
			Lincolnshire Limestone		0-122	Limestone, dolomitic limestone, shale, and siltstone.	
Carboniferous	Upper	Julimar Springs	Bushy Sandstone		0-60	Limestone and sandstone.	
			Old Park Limestone		0-50	Shale, carbonaceous shale.	
Silurian			Unconformity		0-200	Cherty limestone.	
			Unconformity		0-163	Silty, calcareous or dolomitic shale.	Probably constitutes a confining inclusion in water-bearing.
Ordovician	Cincinnatian		Top Limestone		0-5	Argillaceous limestone.	
			Albion		0-145	Massive limestone	
			Decorah Formation		0-50	Shale with interbedded limestone.	Yields small to moderate quantities of water to wells. Yields range from 3 to 50 gpm.
			Platteau Formation		0-240	Finely crystalline limestone.	
	Chambellan		Lock Haven formation		0-93	Dolomite and limestone, Decorah Formation some shale.	Decorah Formation probably acts as a confining bed locally.
			Joachim Dolomite		0-135	Primarily argillaceous dolomite.	
			St. Peter Sandstone		0-160	Silty sandstone, cherty limestone grading upward into quartzite sandstone.	Yields moderate quantities of water to wells. Yields range from 10-140 gpm.
			Everton Formation		0-130		
	Canadian		Fossil Dolomite		0-150		Yields small to large quantities of water to wells. Yields range from 10 to 300 gpm. Upper part of aquifer group yields only small amounts of water to wells.
			Cotton Dolomite		0-320	Sandy and cherty dolomite and sandstone.	
			Jefferson City Dolomite		0-225		
			Rocky Mountain Formation		0-177		
Carboniferous	Upper	Elvina	Carboniferous Dolomite		0-177		Yields moderate to large quantities of water to wells. Yields range from 10 to 400 gpm.
			Carboniferous Dolomite		0-325	Cherty dolomite, siltstone, sandstone, and shale.	
			Carboniferous Dolomite		0-165		
			Carboniferous Dolomite		0-150		
Permian			Carboniferous Dolomite		245-385		
			Carboniferous Dolomite		235		
Permian			Carboniferous Dolomite		235		
			Carboniferous Dolomite		235		

2. Sand may be of Pleistocene age.

NOTE: Stratigraphic nomenclature may not necessarily be that of the U.S. Geological Survey.

LACLEDE COAL GAS SITE ST. LOUIS, MISSOURI



WASTE SITE TRACKING NO.: MO0579
PREPARED BY: JOHN C. PARKS

ECOLOGY AND ENVIRONMENT FIT DEC. 1987
SOURCE: WATER RESOURCES ST. LOUIS
AREA MISSOURI

FIGURE 3-4 : MAJOR AQUIFER DISTRIBUTION ST. LOUIS COUNTY MISSOURI

SECTION 4: SCOPE OF WORK

The subcontractor is to furnish all materials, equipment, and labor necessary for access to boring locations, for the drilling of (20) soil borings with solid stem augers and 5 to borings with hollow stem augers. In addition, the subcontractor is responsible for the collection of three-hundred (300) linear feet of continuous soil samples and for the decontamination of drilling/sampling equipment and for the return of soil cutting back into their bore holes.

4.1 Soil Boring Procedures

A total of six-hundred (600) linear feet shall be advanced with solid stem augers. This consists of twenty (20) soil borings to be drilled, each to a maximum depth of thirty (30) feet below ground surface.

An additional 5 to 10 soil borings shall be drilled with hollow stem augers, for a total of 300 linear feet. No single boring to exceed 60 feet maximum depth. It is the subcontractor's responsibility to locate a source of clean water for all drilling procedures. E & E will not reimburse expenses incurred in the maintenance of an adequate water supply.

In general, all drilling and sampling operation shall conform to standards specified by the American Society for Testing and Materials.

4.2 Continuous Soil Sampling

A total of three-hundred (300) linear feet of continuous soil samples shall be collected by the subcontractor during the advancement of the 5 to 10 borings. These samples shall be collected at locations to be specified by the E & E field project manager. The subcontractor shall provide a sufficient number of continuous samplers (two or more) to allow drilling and sampling activities to proceed without interruption. As the continuous samples are retrieved from the borings, they shall be delivered to E & E field personnel for sample extraction and examination. The subcontractor will provide a table on which the soil cores can be examined.

4.3 Backfilling

Upon completion of drilling and sampling activities at each boring location the drilling spoils shall be discharged back to the borehole. If the quantity of accumulated spoils is less than the quantity needed to backfill the borehole to the ground surface or the soil cuttings are containerized due to potential contamination, the remaining void shall be backfilled with a lean cement/natural bentonite grout. The consistency of the grout shall be approved by E & E project manager prior to placement.

4.4 Reports

Upon completion of the work, boring logs containing the following information shall be submitted to the E & E office identified in Section 7:

- a. Location
- b. Start and completion dates
- c. Boring number
- d. Soil classifications and depths
- e. Blow counts (if split spoons are used)
- f. Driller's remarks
- g. Driller's names

4.5 Decontamination

Prior to the mobilization of the drill rig on-site and following project completion, the rig and all associated equipment (including sampling devices) shall be thoroughly cleaned to remove all oil, grease, mud, tar, etc. This cleaning process shall consist of a high-pressure hot water cleaning. E & E personnel will inspect all equipment to insure sufficient cleaning. The subcontractor will provide all equipment necessary for this cleaning process.

It is anticipated that grossly contaminated soils (tar sludge) will be encountered. From past experiences with tar wastes, E & E has found it necessary to use mineral spirits or stoddard solvents for their removal. The subcontractor must provide all equipment and supplies necessary for this cleaning process. This is not an additional payment item.

Before drilling each boring, the augers, cutting bits and drilling rods shall be cleaned with pressurized hot water. Petroleum-based lubricants shall not be used to prevent binding.

Following the retrieval of each sample, sampling equipment shall be decontaminated by means of stoddard solvent cleaning, followed by an alconox and water wash and a final clean water rinse. Final rinse water will be approved by E & E project manager on site.

The subcontractor will be responsible for providing a means for collecting contaminated solvents, wash water, and related materials. This will require the construction of a decontamination pad. The decontamination pad will be a minimum of 12- by 12-feet in area. The base of the pad will be constructed of several inches of medium sand. This sand will be covered with plastic sheeting (4 to 7 mil thickness). A 35 mil (medium thickness) liner will be placed over the plastic sheeting. The four sides of this pad will have increased elevations through the placement of 8- by 8-inch (medium) boards under the plastic sheeting. Three sides of the decon pad will be fitted with 6-feet (medium) high walls. The walls will be constructed of plastic sheeting over a wooden frame. The bed of the decon pad will be sloped into one corner bounded by walls on each side. A sump will be placed in this corner to collect decon water. The sump may be constructed by placing a 55-gallon steel drum below grade in this corner. The water collected in the sump will be pumped into a 800-gallon (minimum size) holding tank. The holding tank must be mounted on a trailer and be capable of being moved to an off-site disposal area. If the decon water is deemed uncontaminated through lab analysis it will be transported to an off-site disposal site. If the lab analysis shows the water to be contaminated it will be drummed on-site and transported under a separate

subcontract. The determination of the significance of detected contamination will be based on EPA action levels or local Waste Water Treatment Plant (WWTP) acceptance levels. Travel time to deliver uncontaminated decon water will be covered under project mobilization and demobilization.

SECTION 5: DISPOSAL OF CONTAMINATED SOIL AND WASH WATER

Any drilling spoils or fluids which remain after each soil boring, and which cannot be discharged back to the borehole will be considered hazardous material until determined by E & E to be otherwise. Wash water and solutions remaining after decontamination of drilling equipment will also be considered a hazardous material until determined by E & E to be otherwise. The subcontractor will be required to containerize waste as described in 49 CFR Part 173. 55-gallon drums meeting the RCRA Part 173 specifications will be used. The subcontractor will then move the waste to a designated area on-site. E & E will determine which materials must be placed in 55-gallon drums. The subcontractor is required to provide the 55-gallon drums and liners as necessary to containerize any hazardous material. The subcontractor does not have to assume the role of hazardous waste generator in order to containerize the wastes and move them to the designated areas.

SECTION 6: SITE SAFETY

Because of the hazardous nature of the materials which have been or are stored or disposed of on-site, all personnel employed or retained for services by the subcontractor may be required to wear personal protective clothing and respiratory protective equipment while engaged in site-related activities. Appendix C contains U.S. EPA and E & E level of protection guidelines pertaining to personal protective clothing and respiratory equipment. E & E guidelines may at times call for minor modifications within each level of protection. Upon mobilization, the subcontractor shall be prepared to perform work at protection levels up-to and including level C. The required level of protection during operations will be dictated by waste characteristics, site characteristics, and meteorological conditions. In addition, the potential for the need to upgrade protection levels exists at any site where hazardous waste may be found. In the event of a need to further upgrade the level of protection to Level B, the subcontractor will be requested to resume work with a minimal delay following notification of the level of protection upgrade.

Determination of the need for respiratory protection will be made by E & E personnel on a location-to-location basis. It is anticipated that E & E guidelines will require the use of an air-purifying mask with cartridges during operations at some of the twenty (20) drilling locations. On-site monitoring may indicate a need for respiratory protection and thus it may be necessary to upgrade protection to level-C. It will be necessary for the subcontractor to be prepared for this contingency.

The subcontractor is required to provide his employees with respiratory protective equipment which will be used when drilling in areas where potentially high levels of contaminants may exist either above or below ground. The equipment may be required for any personnel within 10 feet of the drilling locations or within other areas designated by E & E during drilling operations.

Respiratory protective equipment cannot be used by individuals with long sideburns or beards or by individuals who wear standard eyeglasses or contact lenses. Special eyeglasses that can be worn with the respiratory equipment are available and can be purchased by the subcontractor at his expense. The use of contact lenses at this site is prohibited.

Other protective equipment which will be required for this task includes chemically resistant coveralls, rubber overshoes, steel-toed safety boots, hard-hats, rubber gloves, and safety goggles, all of which will be furnished by the subcontractor.

Questions regarding levels of protection and related equipment should be addressed to the E & E project manager prior to preparation of the bid proposal. Further, the prospective bidder is requested to carefully review Item 16. "Submission to Physical Examinations and Safety Procedures", Parts A through E, in the sample cost reimbursable contract included as an attachment. Additional safety-related requirements are defined therein.

[Note: Prospective bidders are cautioned that the requirement to wear protective equipment while conducting drilling operations may result in some discomfort and added physical stress to the subcontractor employee. Accordingly, prospective bidders should assure themselves that their employee's physical condition will allow them to successfully perform their duties without physical harm or adverse health effects when wearing the protective equipment per OSHA regulations contained in 29 CFR 1910.134 (b) 10.

Further, E & E will require documentation, in advance of field work, stating that the assigned subcontractor field personnel have been approved, from a health standpoint, for the use of respiratory protective equipment and that they comply with all OSHA regulations regarding work on hazardous waste sites. As confirmation of this, the subcontractor is required to complete the enclosed statement of Medical Fitness (Appendix A) and the statement of Health and Safety Training (Appendix B). The subcontractor must present the signed forms to E & E prior to commencement of the project].

SECTION 7: CONTRACT PARTICULARS

The subcontractor shall, on his own time and at his own expense, procure all permits, licenses, and certificates that may be required of him by law for the execution of the work hereunder. The subcontractor will comply with all federal, state and local laws, ordinances, rules, and regulations relating to the performance of the work hereunder.

The subcontractor is responsible for contacting utility companies and verifying in the field all existing underground cables, gas mains or other utilities. The location of drilling will be altered, if necessary, to avoid any damage to existing utilities. During the progress of the work, the subcontractor shall cooperate with the owners of utilities and permit their representatives access (subject to E & E approval) to the work area to determine if their utilities are being endangered in any way.

At the completion of field operations, it will be the responsibility of the subcontractor to restore the site as nearly as possible, to its original condition.

Should boulders or other obstructions be encountered, the subcontractor will attempt to redrill, after approval from E & E personnel, at distances not greater than 10 feet away from the first boring in an attempt to penetrate the soil to a reasonable depth. Where a reasonable depth is not obtained due to boulders or other obstructions, the subcontractor will be paid for the depth reached for all drilling attempts. If it is necessary to move a drilling location to a new site, the new location will be designated by a new boring number, and the boring location will be marked in the field by E & E personnel.

Upon completion of the work, complete drilling logs of all borings, including all information specified in Section 4.7, will be delivered at the expense of the subcontractor to the office of Ecology and Environment, Inc., located at Cloverleaf Building #3, Suite 404, 6405 Metcalf Avenue, Overland Park, Kansas 66202, Attention: Keith Brown.

The contract bid items will include all services, labor, equipment, transportation, material, and supplies needed to complete the work. Payment for these items will be provided in the compensation for drilling, sampling, drilling in areas of difficult access, recording and submitting data incidental to each item, and waste containerization costs. Any down time incurred by the subcontractor other than delay at the request of E & E will not be a payment item.

No other payments for any specified or indicated work nor for any work implied therefrom will be made. No payment will be made for drilled holes abandoned without authorization by E & E, or for drilling holes for which satisfactory samples and data are not submitted.

Prior to the start of field operations, the subcontractor shall designate his foreman or representative who will be the only individual authorized to discuss work schedules and related matters with E & E personnel.

SECTION 8: BID PARTICULARS

The quantities and items stated on the attached bid sheet are E & E's best approximation of the scope of work and are for the specific purpose of comparing bids. E & E does not guarantee that the bid quantities are correct or that stated tasks will be performed. E & E reserves the right to reduce the quantities or delete items in their entirety, and the subcontractor will not be entitled to any extra payment, over the rates bid, due to such amended quantities or deleted items. It must be stated, however, that at this time every item discussed in the scope of work is expected to be performed under this contract.

Only bids for the entire scope of work will be accepted.

Two (2) bid sheets shall be submitted for the specified work. One sheet will reflect costs associated with work performed at safety Level D. The second sheet will reflect costs for Level C. E & E will consider both cost and technical merit in selecting a subcontractor. Cost evaluation will be based on 70 percent level-D and 30 percent level-C.

Bid prices as submitted will remain valid for a period of six months from the date of bid opening in the event there is a delay in awarding the contract. A GAS Optional Form 60 may also be required.

Receipt of any contract additions sent to the bidder must be acknowledged by letter prior to the time of bid opening or by attaching the required documents to the bid at time of submittal.

The following documentation must accompany the complete bid sheets:

1. A letter addressing the following items:
 - a. An estimate of the number of days required to complete the drilling and sampling of the borings.

- b. The earliest date the subcontractor can mobilize after award of the bid.
 - c. The names of at least three references which E & E may contact; in particular, those for which the subcontractor has had experience drilling at potential hazardous waste/chemical spill sites.
 - d. The type and make of drilling equipment to be used.
- 2. Proof of minimum insurance coverage.
 - 3. The completed Representations and Certifications Regarding Subcontractor status form.
 - 4. Signed copies of the attached statement of Health and Safety Training and the attached statement of Medical Fitness.

Bids for the soil boring/sampling will be received by E & E, Cloverleaf Building #3, Suite 404, 6405 Metcalf Avenue, Overland Park, Kansas 66202 no later than 4:00 p.m., Central Standard time, January 25, 1991. The bid will be enclosed in an envelope which will have the following marking the lower left-hand corner: Bid for: Laclede Coal Gas Site, TDD #F-07-9008-020/PAN #FM00579SA, Attn: Wes McCall, Regional Subcontracts Manager.

The authorization for selected bidder to proceed with the work will be under a subcontract issued by E & E. A unit-price, time and materials type contract, with provision for designated lump sum items, will be used. A copy of E & E's General Terms for Time and Materials Contracts is included. In special cases E & E may request that a subcontractor temporarily proceed with verbal authorization only.

The project has a medium priority rating as assigned by the EPA. The bid must be reviewed and approved by E & E and EPA. E & E and the EPA reserve the right to accept the bid most advantageous to the completion of the work or to reject any or all bids, as they may determine in their sole and absolute discretion, and to proceed no further in this matter.

EXHIBIT 2

COST/PRICE DATA

EXHIBIT 2

COST/PRICE DATA

Completion of thirty (30) soil borings at the
Laclede Coal Gas Site
TDD No. F-07-9008-020
PAN FM00579SA

The work to be performed hereunder shall be on a Time and Materials basis with a not-to-exceed dollar obligation of [REDACTED]
[REDACTED] Invoices must show unit costs, proper price extension, and must be supported by appropriate documentation.

The not-to-exceed total obligated hereunder is predicated on the cost quotation from John Mathes and Associates, Inc. dated January 24, 1991 attached hereto.

Invoices are to be forwarded to ECOLOGY AND ENVIRONMENT, INC., 6405 Metcalf Ave., Suite 404, Overland Park, Kansas, 66202 for approval by Keith Brown the Project Manager before being forwarded for processing and payment.

The Subcontractor is also requested to submit the attached "Subcontractor Cost Release" form with your final invoice.

SUBCONTRACTOR'S COST RELEASE

Instructions

SUBCONTRACTOR: Submit original and 2 copies. Sign original and conform signature on copies.

Pursuant to the terms and conditions of this subcontract dated
> _____, 19>__ and in consideration of the sum of > _____
_____ Dollars \$(> _____) which has
(Total of Cost Paid and Payable)

been or is due to be paid under the said subcontract to John Mathes and
Associates, Inc. at 210 West Sand Bank Road, Columbia, Illinois
62236.

herein called the subcontractor to its assignees, if any, does release,
and discharge Ecology and Environment, Inc. of all liabilities related
to costs incurred by the subcontractor under the said subcontract during
the period > _____, except for:

1. Specified claims in stated amounts or in estimated amounts
where the amounts are not susceptible of exact statement, as follows:
(If none so state) > _____

2. Claims, together with reasonable expenses incidental thereto,
based upon the liabilities of the Subcontractor to third parties arising
out of the performance of the said subcontract, which are not known to
the Subcontractor on the date of the execution of this release.

IN WITNESS WHEREOF, this release has been executed this >_____ day
of >_____ 19>__.

John Mathes and Associates, Inc.
(SUBCONTRACTOR OR CORPORATE NAME)

BY:> _____
> _____
(TITLE)



John Mathes & Associates, Inc.

A Burlington Environmental Inc. Company

210 West Sand Bank Road
P.O. Box 330
Columbia, Illinois 62236-0330
618 281-7173
618 241-1785
FAX 618 281 5120

January 24, 1991

Ecology & Environment, Inc.
Cloverleaf Building #3, Suite 404
6405 Metcalf Avenue
Overland Park, Kansas 66202

Attention: Mr. Wes McCall

Reference: Bid Package - TDD No. #F-07-9008-020
PAN #FM00579SA
Laclede Coal Gas Site
St. Louis, Missouri

Dear Mr. Wes McCall:

John Mathes & Associates, Inc. (Mathes) is pleased to submit the enclosed bid package to perform drilling services at the above referenced site. Included in the bid package are the following required documents and information.

- o Completed Bid Sheets for Level "D" and Level "C" Unit Costs.
- o Mathes Statement of Qualifications, including references,
- o Drilling Methodology.
- o Proof of Minimum Insurance.
- o Completed Representations and Certifications regarding subcontractor status form.
- o Signed copies of the Health & Safety Training and Medical Fitness Statements.

Page 2
Mr. Wes McCall
January 24, 1991

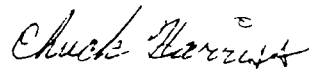
Mathes estimates seven (7) site days with a truck mounted drill rig to complete the soil borings.

One CME auger rig and a continuous tube sampler (CTS) will be used to collect continuous soil samples in the soil borings. At least two CTS tubes will be provided to facilitate the drilling and sampling activities. Standard split spoon samples will be used if the CTS becomes ineffective.

Should you have any questions or need any additional information, please call me at (618) 281-7173.

Sincerely,

JOHN MATHES & ASSOCIATES, INC.



Chuck Harriss
Assistant Manager
Exploration Services

CSH/dmh

Enclosures

TDD No. #F-07-9008-020 PAN #FMO0579SA

DATE: January 24, 1991

TDD No. #F-07-9008-020 PAN #FMO0579SA

DATE: January 24, 1991

REPRESENTATIONS AND
CERTIFICATIONS REGARDING SUBCONTRACTOR STATUS

1. SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS CERTIFICATION

- A. The offeror/contractor certifies that he is ☐, is not ☒, a small business concern as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632).
- B. The offeror/contractor certifies that he is small business (as set forth in A. above) and is ☐ is not ☒, owned and controlled by socially and economically disadvantaged individuals. Such a firm is defined as one:
- ° Which is at least 51 percent owned by one or more such individuals or, in the case of publicly owned business, at least 51 percent of the stock is owned by such individuals,
 - ° Whose management and daily business operations are controlled by one or more such individuals, and
 - ° Which management and daily operations are controlled by one or more such individuals, and
 - ° Which certifies concerning said ownership and control in accordance with Section C. below.
- C. The offeror/contractor certifies that he is ☐, is not ☒, a minority individual(s) in accordance with C.1. below or that he is ☐, is not ☒, socially and economically disadvantaged in accord with Section C.2 or C.3. Socially and economically disadvantaged individuals are defined as:
1. United States citizens who are Black Americans, Hispanic Americans, Native Americans, or other specified minorities;
 2. Any other individual found to be disadvantaged pursuant to Section 8(a) of the Small Business Act (15 U.S.C. 637); or
 3. Any other individual defined as socially, and economically disadvantaged, for purposes relating to other sections of the Small Business Act.

3. WOMEN-OWNED BUSINESS

Concern is ☐, is not ☒, a woman-owned business. A woman-owned business is a business which is, at least, 51 percent owned, controlled, and operated by a woman or women. "Controlled" is defined as exercising the power to make policy decisions.

"Operated" is defined as actively involved in the day-to-day management. For the purposes of this definition, businesses which are publicly owned, joint stock associations, and business trusts may be unable to answer the question. Such businesses may voluntarily represent that they are, or are not, women-owned if this information is available.

4. PLACE OF PERFORMANCE

For the purpose of identifying work performed in labor surplus areas, we stipulate the intended principal place of performance for the work described in this offer is:

<u>Street Address</u>		
<u>St. Louis</u>		<u>MO</u>
City	County	State

☐ This area has been designated as a Labor Surplus Area.

FIRM John Mathes & Associates, Inc.

SIGNATURE *Chuck Mathes*

TITLE *Assistant Program Exploration Services*
(Authorized Representative)

DATE January 24, 1991

APPENDIX A
STATEMENT OF MEDICAL FITNESS

This is to confirm that the following employees may engage in field activities at Laclede Coal Gas Site in connection with the Subcontract Agreement between E & E and Mathes, dated _____, 19 __, and that all of said employees are medically fit both to perform required field activities and to utilize respiratory equipment in accordance with 29 CFR, Part 1910 and "U.S. EPA Standard Operating Safety Guides", 1094.

Chuck Harris
Authorized Subcontractor
Representative

APPENDIX B
STATEMENT OF HEALTH AND SAFETY TRAINING

This is to confirm that the following employees may engage in field activities at Laclede Coal Gas in connection with the scope of work provided by E & E, dated _____, 19 __, and that all of said employees are trained in the health and safety aspects addressed in 29 CFR 1910. 120 and other applicable state and federal regulations. This includes an approved 40 hour health and safety training program and any required yearly update training.

NAME OF ON-SITE PERSONNEL

TITLE

[REDACTED]

Driller

[REDACTED]

Driller Helper

[REDACTED]

Driller Helper

Chuck Hansen
Authorized Subcontractor
Representative

1-24-77
Date

PRODUCER

Marsh & McLennan Incorporated
720 Olive Way
Seattle, WA 98101

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW

COMPANIES AFFORDING COVERAGE

CODE

SUB-CODE

Ronald G. Pickett

COMPANY
LETTER A

NATIONAL UNION FIRE INS. CO.

COMPANY
LETTER B

COMPANY
LETTER C

COMPANY
LETTER D

COMPANY
LETTER E

INSURED

John Mathes & Associates, Inc.
210 West Sand Bank Road
Columbia, IL 62236

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> OWNER'S & CONTRACTOR'S PROT.		12/31/90	12/31/91	GENERAL AGGREGATE	\$ 1000
					PRODUCTS-COMP/OPS AGGREGATE	\$ 1000
					PERSONAL & ADVERTISING INJURY	\$ 1000
					EACH OCCURRENCE	\$ 1000
					FIRE DAMAGE (Any one fire)	\$
					MEDICAL EXPENSE (Any one person)	\$
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/> GARAGE LIABILITY		12/31/90	12/31/91	COMBINED SINGLE LIMIT	\$ 1000
					BODILY INJURY (Per person)	\$
					BODILY INJURY (Per accident)	\$
					PROPERTY DAMAGE	\$
	EXCESS LIABILITY <input type="checkbox"/> OTHER THAN UMBRELLA FORM				EACH OCCURRENCE \$	AGGREGATE \$
A	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY		12/31/90	12/31/91	STATUTORY	
					\$	1000 (EACH ACCIDENT)
					\$	1000 (DISEASE—POLICY LIMIT)
					\$	1000 (DISEASE—EACH EMPLOYEE)
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

CERTIFICATE HOLDER

S A M P L E

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE